ADITYA BIRLA

EMIL

Ref. No. A/ 493 /2023-24

Dated–01.06.2024
(By e-mail)

To

The Director,
Ministry of Environment, Forests & Climate Change
3rd Floor, Vayu Wing, Indira Paryavaran Bhavan
Jor Bagh Road, New Delhi - 110 003
INDIA (diriapolicy-moefcc@gov.in; s.kerketta66@gov.in)

Sub: Submission of half-yearly EC compliance status for the period October-2023 to March-2024 in respect of 1 MTPA Iron Ore Pelletization Plant at Village-Basantapur, Tehsil-Jhumpura, District-Keonjhar of Essel Mining & Industries Limited.

Ref: 1. Environment Clearance (EC) Vide letter F. No. J-11011/424/2011-IA-11 (I) dated 17.03.2022.
2. S.O. 5845(E), dated the 26th November, 2018

Sir,

With reference to the letters and on the subject cited above, we are submitting herewith the half-yearly EC compliance status along with environmental monitoring report and other relevant documents in respect of 1 MTPA Iron Ore Pelletization Plant at Village-Basantapur, Tehsil-Jhumpura, District-Keonjhar for the period of October-2023 to March-2024.

This is for favour of your kind perusal.

Thanking you,

Yours Faithfully,
For ESSEL MINING & INDUSTRIES LTD.

Pavan Kumar Kakani
Joint President
Head - Iron Ore, Beneficiation & Pelletization

Encl: As above.

Cc: 1. Ministry of Env., Forest and Climate Change, Eastern Regional Office, Bhubaneswar, e-mail: roez.bsr-mef@nic.in
2. The Member Secretary, State Pollution Control Board, Odisha.
e-mail: membersecretary@ospcboard.org
3. Regional Director, Central Pollution Control Board, Kolkata.
e-mail: zokolkatta.cpcb@nic.in, mkbiswas.cpcb@nic.in

Essel Mining & Industries Ltd
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Essel Mining & Industries Ltd
Iron Ore Beneficiation & Pelletization Division,
Plot No. 7/43, Khata No. 224/122, At/Po: Basantpur,
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Regd. Office: Industry House, 18th Floor, 10, Camac Street, Kolkata – 700017

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE CONDITIONS

Name of the Project: Compliances to the conditions of the Environmental Clearance for the proposed upward integration of existing Beneficiation Plant with additional 1 MTPA Iron Ore Pelletization Plant within existing Beneficiation Plant premises at Village – Basantpur, Sub-division – Champua, Tehsil- Jhumpura, District – Keonjhar, Odisha of Essel Mining & Ind. Ltd.

EC Approval Letter: F. No. J-11011/424/2011-IA-II (I) on dated 18.04.2012 (Original), F. No. J-11011/424/2011-IA-11 (I) on dated 17.03.2022 (Transfer of EC in favour of EMIL)

Period of Compliance Report: October-2023 to March-2024

Sl. No.	Conditions	Compliance
	Specific conditions	
(i)	Compliance to all the specific and general conditions stipulated for the existing plant by the Central/ State Government should be ensured and regular reports submitted to the Ministry and its Regional Office at Bhubaneswar.	The conditions stipulated in the environmental clearance order accorded by MoEF & CC as well as the consent to establish & consent to operate granted by SPCB, Odisha in respect of 1.0 MTPA Iron Ore Pellet Plant are being complied. The compliance status reports for the same are being submitted to the respective authorities. Consent to Establish (NOC) obtained from OSPCB vide letter no- 20851/Ind-11-NOC-5445 dated on 01.10.2012 and renewal of Consent to Operate obtained from OSPCB vide letter no-4886/IND-I-CON-6459 dated 28.03.2023 valid up to 31.03.2024.
(ii)	Efforts shall be made to reduce particular emissions in the ambient air and a time bound action plan should be submitted. Continuous stack monitoring facilities for the stacks should be provided and sufficient air pollution control devices Viz., Electrostatic Precipitator (ESP), bag house, bag filters etc. should be provided to keep the emission levels below 50 mg/ Nm^3 and installing energy efficient technology. No charcoal should be used as raw material.	All mitigation and control measures are being taken to reduce particular emissions in the construction and operation phase. Fixed water sprinklers have been installed along the haulage roads. Also, 4 nos. of mobile water tankers have been deployed for water sprinkling activity. The haulage roads are being made cement concrete. Adequate pollution control measures with proper management procedures are adopted. The required pollution controls infrastructures (Viz: Electrostatic Precipitator (ESP), bag house, bag filters, Water Sprinklers etc.) for the 1.0 MTPA Pellet Plant are operated efficiently. No Charcoal is used as raw material in the process.

Sl. No.	Conditions	Compliance
(iii)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R.No.826(E) dated 16th November, 2009 should be followed.	Ambient Air Quality (AAQ) monitoring is being carried out at 4 locations covering core and buffer zone. The AAQ confirms to the National Ambient Air Quality Emission Standards (NAAQ).
(iv)	Gaseous emission levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits issued by the CPCB should be followed. New Standards for the sponge iron plant issued by the Ministry vide G.S.R.414 (E) dated 30th May 2008 should be followed.	The gaseous emissions including secondary fugitive emissions have been kept under permissible limits as stipulated by CPCB.
(v)	Vehicular pollution due to transportation of raw material and finished product should be controlled. Proper arrangements should also be made to control dust emissions during loading and unloading of the raw material and finished product.	During transportation of raw material and finished product, proper care is being taken to avoid unwanted spillage of material on roads. Steps are taken to transport the material by covering the vehicle with tarpaulin sheet to avoid fugitive dust emission. Vehicles having valid pollution certificate are deployed for the transportation work. Moreover, the internal roads of the plant are being made Cement Concrete. Also fixed sprinkler has been installed alongside the haulage road of the plant to avoid emission of dust during transportation. Further, care is being taken to ensure that road ways and vehicle wheels are kept clean during transportation. During loading and unloading of raw materials/finished products, proper care is being taken to avoid dropping of the materials from height and the material is moistened by sprinkling water. The raw material & finished product handling area is provided with fixed sprinkling system to effectively supress the dust.
(vi)	Prior Permission for the drawl of 75 m^3/day water from River Baitarani from the concerned department should be obtained. Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance	Drawal of 746 m^3/day water from river Baitarani for meeting the requirement of Iron Ore Beneficiation Plant & pellet has been allocated by the DoWR, Govt. of Odisha To meet the water requirement during the lean season, one reservoir having total holding capacity of 212250 m^3 has been constructed to store the rain / surface run-off water. The Surface runoff water of the plant area during rain

Sl. No.	Conditions	Compliance
	water requirement should be met from other sources.	is being stored in these reservoirs for meeting the water requirement.
(vii)	Regular monitoring of influent and effluent surface, sub-surface and ground water should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and report submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.	Ground water sample is being collected from the nearby village, inside the plant premises and will be tested to ensure the pollutants concentration remaining within the norms prescribed by OSPCB/CPCB. There is no generation of wastewater from pellet process as water will be consumed in raw material grinding, mixing and green ball formation. The pellet plant area is properly levelled. During rain, the storm water of the area flows with the natural slope and mix with the storm water drain connecting to Garland drain around the plant premises. Garland drain has been connected to settling tank to arrest suspended solids then clean water is being sent to Rain water harvesting Reservoir for further use. Moreover, the plant (i.e.; both existing Beneficiation Plant and Pellet Plant) is designed with Zero discharge concept. The process generated water is being recycled and reuse within the Plant after proper treatment. No water is being discharged outside the plant premises.
(viii)	'Zero' effluent discharge shall be strictly followed and no wastewater should be discharged outside the plant premises.	No wastewater is generated from the process as water is fully consumed in raw material grinding, mixing and green ball formation during pellet making. Thus there is zero effluent discharge beyond the plant premises.
(ix)	Proper handling, storage, utilization and disposal of all the solid waste should be ensured and regular report regarding toxic metal content in the waste material and its com position, end use of solid/ hazardous waste should be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB	**Solid Waste:** No Solid waste generated from the process. The iron ore rejects and dust collected (containing Iron) are re-utilized in the pellet manufacturing. Broken Pellets are recycled through grinding plant. The STP sludge will be used as manure. **Hazardous Waste:** All the oily waste collected shall be properly stored under sheds and subsequently disposed as per the provisions of the Hazardous Waste (Management, Handling & Transboundary Movement) Rules 2016 and amendments thereafter. Lubricating waste oil is collected from the site properly and stored separately in sealed

Sl. No.	Conditions	Compliance
		drums and is handed over to authorized agencies for reprocessing. Hazardous waste return in the prescribed format (Form-4) is being submitted to OSPCB and MoEF, Regional Office, Bhubaneswar, Odisha.
(x)	A Disaster Management plan should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, OSPCB and CPCB within 3 months of issue of environmental clearance letter	Keonjhar district lies in the Seismic Zone II (i.e. low damage risk zone) as per seismic zoning map prepared by BIS. For over the years, there is no occurrence of earthquake in Keonjhar District. So the chance of earthquake in the project site is ruled out. Maximum HFL (i.e. High Flood Level) of Baitarani near Plant site: 481m AMSL Minimum elevation of the site: 492m AMSL. So the project site is in safe height from the High flood level of the river. Since the project area comprises of almost plane area with slight undulation, Possibility of land slide is not anticipated. No Disaster Management Plan is required as of now.
(xi)	All the recommendation made in the Chapter on Corporate Responsibility for Environmental Protection (CREP) for the Steel plants should be implemented.	The Corporate Responsibility is being implemented as per requirement.
(xii)	Green belt shall be developed in at least 33% of plant area as per the CPCB guide lines in consultation with the DFO.	Total project area of our integrated plant is at present 79.77 Acre. So 33% of total area which is 26.32-acre area needs to be covered as green belt area which has already been complied. The major plantation area is all along the boundary of the plant premise.
(xiii)	At least 5% of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.	EMIL is committed to spend 5% of total project cost towards CSR. Details are provided in **Annexure-B**
(xiv)	The company shall provide housing for construction labour within the	Local workers are coming from their own house from nearby villages.

Sl. No.	Conditions	Compliance
	site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of tern porary structures to be removed after the completion of the project.	However, infrastructure facilities such as temporary housing/shelter room, toilets, fuel for cooking, drinking water, healthcare facility etc. have been provided for the outside workers during the construction as well as operation phase.
General Conditions		
(i)	The project authorities must strictly adhere to the stipulations made by the Orissa State Pollution Control Board and the state government.	The conditions mentioned in the Consent to Establish and Consent to Operate issued from Odisha State Pollution Control Board is being followed regularly.
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of Ministry of Environment & Forests.	Any expansion or modifications in the plant shall be carried out with prior approval of MoEF&CC.
(iii)	The gaseous emissions from various process units shall conform to the load/ mass based standard notified by this Ministry on 19th May 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	The gaseous emissions from various process units conform to the prescribed standard as is evident from the attached monitoring report.
(iv)	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM10, SO_2 and NOx are anticipated in consultation with SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/ CPCB once in six months.	Ambient Air Quality (AAQ) monitoring has been carried out in 4 locations in the core as well as buffer zone in consultation with regional office of OSPCB. Considering the predominant wind direction one AAQ monitoring station has been established within 500 m of the project site (i.e. in Nediguth Village situated nearby). AAQ monitoring data is being submitted to MoEF Regional Office, Bhubaneswar and OSPCB/CPCB in regular interval of time as prescribed. Environmental monitoring report is given in **Annexure-A.**
(v)	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 € dated 19h May 1993 and 31st December 1993 or as amended from time to time. The	There is no wastewater generation from the process as the water is completely utilized in the process. Total water is consumed in raw material grinding, mixing and green ball formation.

Sl. No.	Conditions	Compliance
	treated waste water shall be utilized for plantation purpose.	The plant is designed with zero discharge concepts with recycle & reuse of the waste water generated during the process.
(vi)	The overall noise levels in and around the plant area shall be kept well within the standards (86 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 (night time).	Adequate noise prevention measures are being taken at all noise generating sources to limit the noise level well within prescribed standard of MoEF&CC /CPCB. All the plant machineries have been designed as per industrial specification to control the noise level within the limit. The noise monitoring report is given in **Annexure-A.**
(vii)	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Pre-employment medical check-up and regular health check-up in regular interval for all the employees and workers are being carried out & records are being maintained following the Factories Act.
(viii)	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.	One reservoir having holding capacity of 212250 m^3 have been constructed. The rain water and surface runoff water of the plant area during rainy season is collected here for lean season use. The reservoir so constructed serves the dual purpose of storage and ground water recharge.
(ix)	The project proponent shall also com ply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	All environmental protection measures recommended in the EIA/EMP report are being strictly adhered to for the socio-economic development of the locality covering community development, education, drinking water supply, health care, communication etc.
(x)	Requisite amount 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 and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted	An amount of 13.5 Crores is allocated as capital cost and 2.7 Crores is allocated as recurring cost towards implementation of the conditions stipulated by the Ministry of Environment and Forests and the State Government. 1. Which includes necessary infrastructures required to control air pollution, water pollution, noise pollution. 2. Implement all the pollution control measures mentioned in Environmental Clearance and OSPCB Consent Order.

Sl. No.	Conditions	Compliance
	to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	3. Monitoring is carried out to ensure the pollution level within the prescribed limit of MoEF&CC and OSPCB/CPCB.
(xi)	A copy of clearance letter shall be sent by the proponent to the concerned Panchayat, Zila Parishad/ Municipal corporation, Urban Local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Advertisement has been given in the local newspapers (both in English and Oriya) regarding grant of environment clearance.
(xii)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at BBSR. The respective Zonal office of CPCB and the SPCB. The criteria pollutant levels namely; PM_{10}, $S0_2$, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The updated status of compliance of the environmental clearance conditions, including results of monitored data are being uploaded in our company's website. The compliance report is being submitted to the MoEF Office, Bhubaneswar and MoEF, Delhi, Zonal Office of CPCB, Kolkata and SPCB, Odisha in regular interval. The AAQ monitoring is being carried out in 4 locations within the core and buffer zone. A LED type electronic display Board has been installed at the main gate of the plant for displaying monitoring data
(xiii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard Copies as well as by email) to the Regional Office of this Ministry at Bhubaneswar/ CPCB/ SPCB shall monitor the stipulated conditions.	The six monthly compliance report to the conditions mentioned in the Environment Clearance order with results of monitoring data is being submitted in due interval of time to MoEF Office at Delhi and Regional Office at Bhubaneswar, CPCB Zonal Office, Kolkata and SPCB, Odisha.
(xiv)	The environment statement for each financial year ending at 31st March in Form-V as it mandated to be submitted by the project proponent	Environment Statement Report (Form-V prescribed under Environment (Protection) Rules, 1986) is being submitted to the State

Sl. No.	Conditions	Compliance
(xiv)	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.	Environment Statement in prescribed Form-V for each financial year i.e. ending at 31st March is being submitted to State Pollution Control Board. It is being uploaded in the company's website along with the status of compliance of environmental clearance conditions.
(xv)	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.	Advertisement of Environment Clearance was published in the local newspapers (both in English and Odia) regarding grant of clearance to the 1.0 MTPA Beneficiation Plant of M/s Pro Minerals Pvt. Ltd. within 7 days from the date of issuance of Environmental Clearance.

Pavan Kumar Kakani
Joint President
Head - Iron Ore, Beneficiation & Pelletization

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF OCTOBER-2023 FORM ESSEL MINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA, KEONJHAR

CONTENTS

AMBIENT AIR MONITORING REPORTFOR THE MONTH OF OCTOBER-2023

AMBIENTAIRMONITORINGDATA

LOCATION AND WEEKLYMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
NearECR-1		✓			✓		
Near Canteen		✓			✓		
Near Admin Building		✓			✓		
Nadiguth Village		✓			✓		

SUMMARY SHEET OF SAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	NearECR-1	02.10.2023	OCPL/AAQ/EMIL/01/10/23
2.	Sample02	Near Canteen	02.10.2023	OCPL/AAQ/EMIL/02/10/23
3.	Sample03	Near Admin Building	02.10.2023	OCPL/AAQ/EMIL/03/10/23
4.	Sample04	Nedigutha Village	03.10.2023	OCPL/AAQ/EMIL/04/10/23
5.	Sample05	NearECR-1	05.10.2023	OCPL/AAQ/EMIL/05/10/23
6.	Sample06	Near Canteen	05.10.2023	OCPL/AAQ/EMIL/06/10/23
7.	Sample07	Near AdminBuilding	05.10.2023	OCPL/AAQ/EMIL/07/10/23
8.	Sample08	Nedigutha Village	06.10.2023	OCPL/AAQ/EMIL/08/10/23
9.	Sample09	NearECR-1	09.10.2023	OCPL/AAQ/EMIL/09/10/23
10.	Sample10	Near Canteen	09.10.2023	OCPL/AAQ/EMIL/10/10/23
11.	Sample11	Near Admin Building	09.10.2023	OCPL/AAQ/EMIL/11/10/23
12.	Sample12	Nedigutha Village	10.10.2023	OCPL/AAQ/EMIL/12/10/23
13.	Sample13	NearECR-1	12.10.2023	OCPL/AAQ/EMIL/13/10/23
14.	Sample14	Near Canteen	12.10.2023	OCPL/AAQ/EMIL/14/10/23
15.	Sample15	Near Admin Building	12.10.2023	OCPL/AAQ/EMIL/15/10/23
16.	Sample16	Nedigutha Village	13.10.2023	OCPL/AAQ/EMIL/16/10/23

17.	Sample17	NearECR-1	16.10.2023	OCPL/AAQ/EMIL/17/10/23
18.	Sample18	Near Canteen	16.10.2023	OCPL/AAQ/EMIL/18/10/23
19.	Sample19	Near Admin Building	16.10.2023	OCPL/AAQ/EMIL/19/10/23
20.	Sample20	Nedigutha Village	17.10.2023	OCPL/AAQ/EMIL/20/10/23
21.	Sample21	NearECR-1	19.10.2023	OCPL/AAQ/EMIL/21/10/23
22.	Sample22	Near Canteen	19.10.2023	OCPL/AAQ/EMIL/22/10/23
23.	Sample23	Near Admin Building	19.10.2023	OCPL/AAQ/EMIL/23/10/23
24.	Sample24	Nedigutha Village	20.10.2023	OCPL/AAQ/EMIL/24/10/23
25.	Sample25	NearECR-1	23.10.2023	OCPL/AAQ/EMIL/25/10/23
26.	Sample26	Near Canteen	23.10.2023	OCPL/AAQ/EMIL/26/10/23
27.	Sample27	Near Admin Building	23.10.2023	OCPL/AAQ/EMIL/27/10/23
28.	Sample28	Nedigutha Village	24.10.2023	OCPL/AAQ/EMIL/28/10/23
29.	Sample29	NearECR-1	26.10.2023	OCPL/AAQ/EMIL/29/10/23
30.	Sample30	Near Canteen	26.10.2023	OCPL/AAQ/EMIL/30/10/23
31.	Sample31	Near Admin Building	26.10.2023	OCPL/AAQ/EMIL/31/10/23
32.	Sample32	Nedigutha Village	27.10.2023	OCPL/AAQ/EMIL/32/10/23
33.	Sample33	NearECR-1	30.10.2023	OCPL/AAQ/EMIL/33/10/23
34.	Sample34	Near Canteen	30.10.2023	OCPL/AAQ/EMIL/34/10/23
35.	Sample35	Near Admin Building	30.10.2023	OCPL/AAQ/EMIL/35/10/23
36.	Sample36	Nedigutha Village	31.10.2023	OCPL/AAQ/EMIL/36/10/23

LOCATION: NEAR ECR-1

Parameters	Limit(µg/M3)	Date									
		02.10.23	05.10.23	09.10.23	12.10.23	16.10.23	19.10.23	23.10.23	26.10.23	30.10.23	Avg
PM10	100	86.6	84	80.8	84.6	82	84.8	91.2	85.6	85	84.95
PM2.5	60	58.4	54.6	50.4	51	50.4	51.8	59.8	52.6	52.2	54.57
Sulphur Dioxide (SO2)	80	26.1	28	24.4	29.6	26	25.4	38	28.5	29	28.33
Oxide of Nitrogen (NO2)	80	20.5	22	24.8	25.4	23.4	21	29.8	24	22.8	23.74
Lead(Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	164	162	158	158	165.4	161.4	189.5	160.8	164.2	164.81
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	31.2	30	32.4	26	28.4	27.5	27	26.2	24.5	28.13
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5,SO2,NO2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	Limit (µg/ M^3)	DATE									
		02.10.23	05.10.23	09.10.23	12.10.23	16.10.23	19.10.23	23.10.23	26.10.23	30.10.23	Avg
PM10	100	78.4	76.2	78.6	94.8	84.5	88.4	91.2	89.6	88.5	85.57
PM2.5	60	44	43.4	42	58.6	57.4	51.4	59.8	51.4	50.6	58.73
Sulphur Dioxide (SO_2)	80	15.2	16.4	15.8	46	45.5	37.8	38	37.9	39.2	32.42
Oxide of Nitrogen (NO_2)	80	18.2	17.6	16.2	44.8	41	32.2	29.8	28	31.5	28.81
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide(CO)(8Hrs)	2000	182	182.6	178.8	176	180	182.6	189.5	191	194.2	184.07
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	48	45.2	52.4	30.8	30.2	47.8	30.2	56	30.2	41.2
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP)Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 & Envirotech-APM-550

Measurement of PM_{10}&$PM_{2.5}$,SO_2,NO_2,&CO has been done as per the ISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR ADMIN. BUILDING

Parameters	Limit (µg/M^3)	DATE									
		02.10.23	05.10.23	09.10.23	12.10.23	16.10.23	19.10.23	23.10.23	26.10.23	30.10.23	Avg
PM10	100	80.6	85.2	81.8	80.5	88.5	79.4	78.4	76.4	89.4	82.24
PM2.5	60	60	54.5	55	57.2	57.5	56	49.5	51	47.8	54.3
Sulphur Dioxide (SO_2)	80	24.5	22	19.6	20.7	35.4	30.8	28.5	21.6	25.5	25.4
Oxide of Nitrogen(NO_2)	80	32	26.4	28.2	25	30.2	24.9	22.5	24.1	30.8	27.12
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	138.8	156.2	165.4	175.4	185	166	148.6	152.2	132.5	157.78
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	34.6	42	40.5	36.5	28	46.6	44	43.4	48	40.4
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM_{10}&$PM_{2.5}$,SO_2,NO_2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE									
		03.10.23	06.10.23	10.10.23	13.10.23	17.10.23	20.10.23	24.10.23	27.10.23	31.10.23	Avg
PM10	100	42.5	44.4	52.8	62	56	42.6	52.1	50.4	48	50.08
PM2.5	60	48.5	51	42.2	47.9	54	38.4	36.8	38.8	42	44.4
Sulphur Dioxide (SO2)	80	14.6	22.5	21	26.4	20.5	16	12.4	14.5	18.5	18.4
Oxide of Nitrogen (NO2)	80	20.6	24	16.5	21.4	18	14.2	18.6	15.4	11.6	17.8
Lead (Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	142.4	144.2	139.5	136	144.5	126.4	128	139	144	138.22
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	12.2	14.2	9.4	11.2	10.5	12.5	12.9	9.4	14.6	11.87
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM10& PM2.5, SO2, NO2, &CO has been done as per the IS Code IS: 5182 Part IV, II, VI, X&XVII respectively

NOISE LEVEL MONITORING REPORTFOR THE MONTH OF OCTOBER-2023

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF OCTOBER LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area		✓		✓			
Near Back Gate Area		✓		✓			
Near Pellet Plant Area		✓		✓			
Near IOBP Area		✓		✓			

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	02.10.2023	OCPL/NL/EMIL/01/10/23
2.	Sample02	Near Back Gate Area	02.10.2023	OCPL/NL/EMIL/02/10/23
3.	Sample03	Near Pellet Plant Area	02.10.2023	OCPL/NL/EMIL/03/10/23
4.	Sample04	Near IOBP Area	02.10.2023	OCPL/NL/EMIL/04/10/23
5.	Sample05	Near Main Gate Area	04.10.2023	OCPL/NL/EMIL/05/10/23
6.	Sample06	Near Back Gate Area	04.10.2023	OCPL/NL/EMIL/06/10/23
7.	Sample07	Near Pellet Plant Area	04.10.2023	OCPL/NL/EMIL/07/10/23
8.	Sample08	Near IOBP Area	04.10.2023	OCPL/NL/EMIL/08/10/23
9.	Sample09	Near Main Gate Area	09.10.2023	OCPL/NL/EMIL/09/10/23
10.	Sample10	Near Back Gate Area	09.10.2023	OCPL/NL/EMIL/10/10/23
11.	Sample11	Near Pellet Plant Area	09.10.2023	OCPL/NL/EMIL/11/10/23
12.	Sample12	Near IOBP Area	09.10.2023	OCPL/NL/EMIL/12/10/23
13.	Sample13	Near Main Gate Area	11.10.2023	OCPL/NL/EMIL/13/10/23
14.	Sample14	Near Back Gate Area	11.10.2023	OCPL/NL/EMIL/14/10/23
15.	Sample15	Near Pellet Plant Area	11.10.2023	OCPL/NL/EMIL/15/10/23

16.	Sample16	Near IOBP Area	11.10.2023	OCPL/NL/EMIL/16/10/23
17.	Sample17	Near Main Gate Area	16.10.2023	OCPL/NL/EMIL/17/10/23
18.	Sample18	Near Back Gate Area	16.10.2023	OCPL/NL/EMIL/18/10/23
19.	Sample19	Near Pellet Plant Area	16.10.2023	OCPL/NL/EMIL/19/10/23
20.	Sample20	Near IOBP Area	16.10.2023	OCPL/NL/EMIL/20/10/23
21.	Sample21	Near Main Gate Area	18.10.2023	OCPL/NL/EMIL/21/10/23
22.	Sample22	Near Back Gate Area	18.10.2023	OCPL/NL/EMIL/22/10/23
23.	Sample23	Near Pellet Plant Area	18.10.2023	OCPL/NL/EMIL/23/10/23
24.	Sample24	Near IOBP Area	18.10.2023	OCPL/NL/EMIL/24/10/23
25.	Sample25	Near Main Gate Area	23.10.2023	OCPL/NL/EMIL/25/10/23
26.	Sample26	Near Back Gate Area	23.10.2023	OCPL/NL/EMIL/26/10/23
27.	Sample27	Near Pellet Plant Area	23.10.2023	OCPL/NL/EMIL/27/10/23
28.	Sample28	Near IOBP Area	23.10.2023	OCPL/NL/EMIL/28/10/23
29.	Sample29	Near Main Gate Area	25.10.2023	OCPL/NL/EMIL/29/10/23
30.	Sample30	Near Back Gate Area	25.10.2023	OCPL/NL/EMIL/30/10/23
31.	Sample31	Near Pellet Plant Area	25.10.2023	OCPL/NL/EMIL/31/10/23
32.	Sample32	Near IOBP Area	25.10.2023	OCPL/NL/EMIL/32/10/23
33.	Sample33	Near Main Gate Area	31.10.2023	OCPL/NL/EMIL/33/10/23
34.	Sample34	Near Back Gate Area	31.10.2023	OCPL/NL/EMIL/34/10/23
35.	Sample35	Near Pellet Plant Area	31.10.2023	OCPL/NL/EMIL/35/10/23
36.	Sample36	Near IOBP Area	31.10.2023	OCPL/NL/EMIL/36/10/23

Date of Monitoring: 02.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55	62.8	65	56.2	36.9
2	Near Back Gate Area	50.6	57.9	56.3	46.8	35
3	Near Pellet PlantArea	46.6	50	52.8	40.1	25.2
4	Near IOBP Area	28	36.8	34	32	22
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:04.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	56.2	65.8	62	52.6	40
2	Near Back Gate Area	46	64.6	55.6	46.1	32.4
3	Near Pellet Plant Area	44	67	51.7	48	30
4	Near IOBP Area	30	34	38	25.4	23.5
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:09.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	54.2	68.6	65.2	44	27.6
2	Near Back Gate Area	48	54.6	56.4	48	30.2
3	Near Pellet Plant Area	42.8	50	52	44.8	34.6
4	Near IOBP Area	30	29.2	35.8	27	22.6
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:11.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00- 11.00am	Day 3.00- 4.00pm	Evening6.00 -7.00pm	Night 10.00- 11.00pm
1	Near Main Gate Area	54	68.6	65.8	45.2	28
2	Near Back Gate Area	45.2	56.2	56	48	30.7
3	Near Pellet Plant Area	40.5	56.9	55.1	44.8	34.6
4	Near IOBP Area	28.4	30.3	35	27	22
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:16.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	60.2	68.4	56	52.4	32
2	Near Back Gate Area	48.6	54.6	50.4	48.7	28.4
3	Near Pellet Plant Area	50.5	49.7	48.6	38.8	34.6
4	Near IOBP Area	24	34.6	35	26.2	19
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:18.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55.2	68	55.4	50.6	34.6
2	Near BackGate Area	48	54.6	50.9	48.7	32
3	Near Pellet Plant Area	47.6	49.7	48.6	40	34.6
4	Near IOBP Area	29.2	34.6	35	26.9	20.6
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:23.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	56.2	68	62.6	47.2	34.3
2	Near Back Gate Area	45	48.6	52	46.6	26.8
3	Near Pellet Plant Area	40.8	42.8	48	37.9	23
4	Near IOBP Area	25.3	31.8	34	29	20
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:25.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	54.8	65.2	62	47.2	34.3
2	Near Back Gate Area	45	48.6	52	46.6	26
3	Near Pellet Plant Area	40.8	42.8	48	37.9	23
4	Near IOBP Area	25.3	31.8	35.4	31.2	20.8
5	**Ambient Noise Standard**	**Day Time(indB(A))Leq**			**Night Time(indB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:31.10.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	46.8	66	56.4	38	28.4
2	Near Back Gate Area	44	54.6	54	40.8	31
3	Near Pellet Plant Area	52.4	45.9	54	38	30.2
4	Near IOBP Area	31	35.9	38	32.6	29.4
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF OCTOBER-2023

SURFACE WATER ANALYSIS FOR THE MONTH OF OCTOBER2023
SUMMARY SHEET OF SAMPLING (SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	04-October-2023	OCPL/SW/01/10/23
2.	Sample02	BAITARANI RIVE (NEARPLANTAREA)	04-October-2023	OCPL/SW/02/10/23
3.	Sample03	RESERVOUR POND INSIDEPLANT	04-October-2023	OCPL/SW/03/10/23
4.	Sample04	DALKI NALA NEAR PLANT	04-October-2023	OCPL/SW/04/10/23
5.	Sample05	NADIGUTH	04-October-2023	OCPL/SW/05/10/23

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/10/23		**Report No.-OCPL/EMIL/01/10/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Sample collected by	OCPL representative
Location	Keonjhar,Odisha	Date of Sampling	04-October-2023
Sample quantity	1no.sX1Lit.	Date of sample received	05-October-2023
Sample type	Surface Water	Date of Analysis	05-October-2023
Required parameters	As described in W/O	Date of Issue of report	12-October-2023
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	23.6
4	pH	-	7.2
5	TotalSuspendedSolids	mg/L	85.8
6	Total Dissolved Solid	mg/L	917
7	Biochemical Oxygen Demand at27°C	mg/L	7.4
8	Chemical Oxygen Demand	mg/L	1.2
9	Total Residual Chlorine	mg/L	0.68
10	Alkalinity	mg/L	92
11	Calcium	mg/L	61.5
12	Magnesium	mg/L	40.6
13	Total Hardnessas CaCO3	mg/L	48.2

14	Electrical Conductivity	µs/cm	156.4
15	Turbidity	NTU	14.8
16	Arsenic asAs	µg/L	ND
17	Lead as Pb	µg/L	<0.05
18	Cadmium as Cd	µg/L	ND
19	Total Chromium as Cr	µg/L	0.12
20	Zinc as Zn	µg/L	0.68
21	Fluoride as F	mg/L	<0.05
22	Iron as Fe	mg/L	16.2
23	Nitrate	mg/L	1.8
24	Sodium as Na	mg/L	4.1
25	Potassium as K	mg/L	2.8
26	Sulfate	mg/L	1.2
27	Nitrate as NO3	mg/L	3.7
28	Total Silica as SiO2	mg/L	6.2
29	Total dissolved Solid	mg/L	917

Location: BAITARANI RIVER(NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/10/23		**Report No.-OCPL/EMIL/02/10/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (NEARPLANTAREA)**	Sample collected by	OCPL representative
Location	Keonjhar,Odisha	Date of Sampling	04-October-2023
Sample quantity	1no.sX1Lit.	Date of sample received	05-October-2023
Sample type	Surface Water	Date of Analysis	05-October-2023
Required parameters	As described in W/O	Date of Issue of report	12-October-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	24
4	pH	-	6.9
5	TotalSuspendedSolids	mg/L	82
6	Total Dissolved Solid	mg/L	869
7	Biochemical Oxygen Demand at27°C	mg/L	7.2
8	Chemical Oxygen Demand	mg/L	1.1
9	Total Residual Chlorine	mg/L	0.68
10	Alkalinity	mg/L	86
11	Calcium	mg/L	58.2
12	Magnesium	mg/L	40
13	Total Hardness asCaCO3	mg/L	46.6

14	Electrical Conductivity	µs/cm	144.8
15	Turbidity	NTU	12.6
16	Arsenic as As	µg/L	ND
17	Lead as Pb	µg/L	<0.05
18	Cadmium as Cd	µg/L	ND
19	Total Chromium as Cr	µg/L	0.11
20	Zinc as Zn	µg/L	0.68
21	Fluoride as F	mg/L	<0.05
22	Iron as Fe	mg/L	16.2
23	Nitrate	mg/L	1.8
24	Sodium as Na	mg/L	4.2
25	Potassium as K	mg/L	2.4
26	Sulfate	mg/L	1.2
27	Nitrate as NO_3	mg/L	3.1
28	Total Silica as SiO_2	mg/L	6.1
29	Total dissolved Solid	mg/L	869

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/10/23		**Report No.-OCPL/EMIL/03/10/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR PONDINSIDEPLANT PREMISES**	Sample collected by	OCPL representative
Location	Keonjhar,Odisha	Date of Sampling	04-October-2023
Sample quantity	1no.sX1Lit.	Date of sample received	05-October-2023
Sample type	Surface Water	Date of Analysis	05-October-2023
Required parameters	As described in W/O	Date of Issue of report	12-October-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	2.1
2	Odour	-	Agreeable
3	Temperature	°C	24.6
4	pH	-	6.7
5	TotalSuspendedSolids	mg/L	168
6	Total Dissolved Solid	mg/L	1142
7	Bio chemical Oxygen Demand at27°C	mg/L	9.4
8	Chemical Oxygen Demand	mg/L	4.1
9	Total Residual Chlorine	mg/L	3.8
10	Alkalinity	mg/L	88.4
11	Calcium	mg/L	44.8
12	Magnesium	mg/L	42

13	Total Hardnessas CaCO3	mg/L	171.4
14	Electrical Conductivity	µs/cm	186.5
15	Turbidity	NTU	62.8
16	Arsenic as As	µg/L	ND
17	Lead as Pb	µg/L	ND
18	Cadmium as Cd	µg/L	0.03
19	Total Chromium as Cr	µg/L	ND
20	Zinc as Zn	µg/L	<0.05
21	FluorideasF	mg/L	ND
22	Iron as Fe	mg/L	36.6
23	Nitrate	mg/L	3.6
24	Sodium as Na	mg/L	18.2
25	Potassium as K	mg/L	3.4
26	Sulfate	mg/L	4.6
27	Nitrate as NO_3	mg/L	4.4
28	Total Silica as SiO_2	mg/L	22.6
29	Total dissolved Solid	mg/L	1142

Location: DALKINALA,NEAR PLANT

Lab Sample Code: OCPL/SW/04/10/23		**Report No.-OCPL/EMIL/04/10/23**	
Sample description:		Test method	APHA22nd edition
Samplelocation	**DALKI NALA, NEARPLANT**	Sample collected by	OCPL representative
Location	Keonjhar,Odisha	Date of Sampling	04-October-2023
Sample quantity	1no.sX1Lit.	Date of sample received	05-October-2023
Sample type	SurfaceWater	Date of Analysis	05-October-2023
Required parameters	As described inW/O	Date of Issue of report	12-October-2023
EMILreference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.1
2	Odour	-	Agreeable
3	Temperature	°C	23
4	pH	-	6.8
5	TotalSuspendedSolids	mg/L	44.2
6	Total Dissolved Solid	mg/L	814
7	BiochemicalOxygenDemand at27°C	mg/L	4.2
8	ChemicalOxygenDemand	mg/L	2.1
9	Total Residual Chlorine	mg/L	0.6
10	Alkalinity	mg/L	38.8
11	Calcium	mg/L	42.5
12	Magnesium	mg/L	50.2
13	Total Hardnessas CaCO3	mg/L	48.2
14	Electrical Conductivity	µs/cm	82

15	Turbidity	NTU	34.4
16	Arsenic as As	µg/L	ND
17	Lead as Pb	µg/L	ND
18	Cadmium as Cd	µg/L	<0.05
19	Total Chromium as Cr	µg/L	<0.05
20	Zinc as Zn	µg/L	1.21
21	FluorideasF	mg/L	ND
22	Iron as Fe	mg/L	19.4
23	Nitrate	mg/L	3.1
24	Sodium as Na	mg/L	1.86
25	Potassium as K	mg/L	0.22
26	Sulfate	mg/L	<0.01
27	Nitrate as NO_3	mg/L	3.6
28	Total Silica as SiO_2	mg/L	6.4
29	Total dissolved Solid	mg/L	814

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/10/23		**Report No.-OCPL/EMIL/05/10/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Sample collected by	OCPL representative
Location	Keonjhar,Odisha	Date of Sampling	04-October-2023
Sample quantity	1no.sX1Lit.	Date of sample received	05-October-2023
Sample type	Surface Water	Date of Analysis	05-October-2023
Required parameters	As described inW/O	Date of Issue of report	12-October-2023
EMILreference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.88
2	Odour	-	Agreeable
3	Temperature	°C	23.1
4	pH	-	6.8
5	TotalSuspendedSolids	mg/L	52.4
6	Total Dissolved Solid	mg/L	961
7	Biochemical Oxygen Demand at27°C	mg/L	4.18
8	Chemical Oxygen Demand	mg/L	1.4
9	Total Residual Chlorine	mg/L	0.6
10	Alkalinity	mg/L	28.5
11	Calcium	mg/L	40.2
12	Magnesium	mg/L	42.6
13	Total Hardness as $CaCO_3$	mg/L	36
14	Electrical Conductivity	µs/cm	157.8

15	Turbidity	NTU	46.4
16	Arsenic as As	µg/L	ND
17	Lead as Pb	µg/L	ND
18	Cadmium as Cd	µg/L	ND
19	Total Chromium as Cr	µg/L	ND
20	Zinc as Zn	µg/L	0.6
21	FluorideasF	mg/L	ND
22	Iron as Fe	mg/L	32.4
23	Nitrate	mg/L	2.4
24	Sodium as Na	mg/L	4.66
25	Potassium as K	mg/L	16.2
26	Sulfate	mg/L	3.1
27	Nitrate as NO_3	mg/L	5.2
28	Total Silica as SiO_2	mg/L	4.6
29	Total dissolved Solid	mg/L	961

GROUND WATER ANALYSIS REPORTFOR THE MONTH OF OCTOBER-2023

GROUNDWATERMONITORINGREPORTSUMMARYSHEETOFSAMPLING(GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	11-October-2023	OCPL/GW/01/10/23
2.	Sample02	NEDIGUTH	11-October-2023	OCPL/GW/02/10/23
3.	Sample03	TALASAHI	11-October-2023	OCPL/GW/03/10/23
4.	Sample04	PLANT-1(Near Canteen)	11-October-2023	OCPL/GW/04/10/23
5.	Sample05	PLANT-2(SLIMEPOND)	11-October-2023	OCPL/GW/05/10/23

ANALYSIS RESULT (With drinking water specifications, BIS(As per 10500- 2012BIS)

Sl. No.	TESTPARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	0.8	1.1	1.0	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	24.8	25.4	24.2	25.5	25.2		
4	pH	-	7.1	7.2	7.2	7.2	6.9	6.5-8.5	No relaxation
5	Total Hardness (as $CaCO_3$)	mg/L	52	51.8	56.6	61.8	40.2	300	600
6	Calcium	mg/L	11.4	14.5	16.2	16	15.2	75	200
7	Magnesium	mg/L	0.85	1.6	3.8	3.4	2.2	30	No relaxation
8	Chloride	mg/L	8.8	14.8	12.2	8.2	14.5	250	1000
9	Alkalinity	mg/L	22.4	26.8	14	22.5	14.8	200	600
10	Electrical Conductivity	µs/cm	60.5	74	66.2	64	71	--	--
11	Arsenic as As	µg/L	ND	ND	ND	0.01	ND	10	No relaxation
12	Lead as Pb	µg/L	ND	ND	ND	ND	0.02	10	No relaxation
13	Cadmium as Cd	µg/L	0.08	0.11	0.02	ND	ND	3.0	No relaxation
14	Total Chromium as Cr	µg/L	ND	ND	0.02	0.04	0.04	50	No relaxation

15	Zinc as Zn	µg/L	86.4	62	55.8	68	75.4	5000	No relaxation
16	Fluoride as F	mg/L	ND	ND	ND	ND	ND	1.0	1.9
17	Iron as Fe	µg/L	34.2	22	18.4	18.4	35.2	300	1000
18	Nitrate	mg/L	0.02	0.16	0.02	0.16	0.02	45	100
19	Sodium as Na	mg/L	1.1	1.02	1.04	1.01	0.32	150	No relaxation
20	Potassium as K	mg/L	ND	ND	0.02	0.05	ND	12	No relaxation
21	Sulfate	mg/L	ND	0.02	0.04	ND	0.02	200	400
22	Total Silica as SiO_2	mg/L	ND	0.06	0.04	0.06	0.2	--	--
23	Total suspended Solid	mg/L	0.88	0.42	1.2	0.8	0.4	--	--
24	Total dissolved Solid	mg/L	42	84.5	94.6	46	38	250	2000
25	Turbidity	NTU	0.22	0.41	0.12	0.18	0.22	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORTFOR THE MONTH OF OCTOBER-2023

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF OCTOBER–2023

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	17-October-2023	OCPL/GWL/01/10/23
7.	Sample02	NEDIGUTH	17-October-2023	OCPL/GWL/02/10/23
8.	Sample03	TALASAHI	17-October-2023	OCPL/GWL/03/10/23
9.	Sample04	PLANT-1(Near Canteen)	17-October-2023	OCPL/GWL/04/10/23
10.	Sample05	PLANT-2(SLIMEPOND)	17-October-2023	OCPL/GWL/05/10/23

MONITORINGRESULT

Sl No.	Name of the location	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dugwell	0.8	8.1	6.7	--
2	NEDIGUTH	Dugwell	1.2	9.4	7.12	--
3	TALASAHI	Dugwell	1.0	8.6	7.24	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	62	12.1	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	60	37.9	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORTFOR THE MONTH OF OCTOBER-2023

REPORTONSTACKMONITORINGFOR THEMONTHOFOCTOBER–2023

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1						✓	
DGStack-2						✓	
Stack-1(Pellet Plant Process Stack)							✓
Stack-2(Pellet Plant Dedusting Stack)							✓

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/38
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**13.10.2023
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/10
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 13.10.2023

ANALYSISRESULT

A.	**Generalinformation aboutstack:**	
1.	Stack connected to	:DG-1
2.	Emission due to	:Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	:Circular
5.	Serial no.	:N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^oC)	82.4	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	316	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	14.5	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	968	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	9.6	--	IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	21.4	--	IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	5.8	--	IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	136.6	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	88	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	41.2	50	IS11255(PartI):1985,RA 2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/39
M/SESSELMINING&INDUSTRIESLTD	**Date** :13.10.2023
Keonjhar,Odisha,India	**Sample No.**: OCPL/EMIL/2023-24/10
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :13.10.2023

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^{o}C)	89.8		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	295		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	26.2		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1651		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.1		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	26.8		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	17.6		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	158	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	84.2	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	38	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	14:10:2023
Stack-2	Pellet plant de-dusting stack	Electricity	14:10:2023

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(^oC)	VelocityNM^3/Hr
1	Pellet plant process stack	80	7214	102.4	35946
2	Pellet plant de-dusting stack	60	6841	94.5	36256

Stack No.	Stack Description	Carbon monoxide **(CO)** Mg/nm^3	Carbon dioxide**(CO2)** %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.6	142.8	133.4	183	79.8
2	Pellet plant de-dusting stack	<0.2	7.2	116	129.6	164.5	71

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF NOVEMBER-2023 FOR ESSELMINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA,KEONJHAR

CONTENTS

AMBIENT AIR MONITORING REPORT FOR THE MONTH OF NOVEMBER-2023

AMBIENTAIRMONITORINGDATA

LOCATION AND WEEKLYMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
NearECR-1		✓			✓		
Near Canteen		✓			✓		
Near Admin Building		✓			✓		
Nadiguth Village		✓			✓		

SUMMARY SHEET OF SAMPLING

SlNo.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	NearECR-1	02.11.2023	OCPL/AAQ/EMIL/01/11/23
2.	Sample02	Near Canteen	02.11.2023	OCPL/AAQ/EMIL/02/11/23
3.	Sample03	Near Admin Building	02.11.2023	OCPL/AAQ/EMIL/03/11/23
4.	Sample04	Nedigutha Village	01.11.2023	OCPL/AAQ/EMIL/04/11/23
5.	Sample05	NearECR-1	06.11.2023	OCPL/AAQ/EMIL/05/11/23
6.	Sample06	Near Canteen	06.11.2023	OCPL/AAQ/EMIL/06/11/23
7.	Sample07	Near Admin Building	06.11.2023	OCPL/AAQ/EMIL/07/11/23
8.	Sample08	Nedigutha Village	04.11.2023	OCPL/AAQ/EMIL/08/11/23
9.	Sample09	NearECR-1	09.11.2023	OCPL/AAQ/EMIL/09/11/23
10.	Sample10	Near Canteen	09.11.2023	OCPL/AAQ/EMIL/10/11/23
11.	Sample11	Near Admin Building	09.11.2023	OCPL/AAQ/EMIL/11/11/23
12.	Sample12	Nedigutha Village	08.11.2023	OCPL/AAQ/EMIL/12/11/23
13.	Sample13	NearECR-1	13.11.2023	OCPL/AAQ/EMIL/13/11/23
14.	Sample14	Near Canteen	13.11.2023	OCPL/AAQ/EMIL/14/11/23
15.	Sample15	Near Admin Building	13.11.2023	OCPL/AAQ/EMIL/15/11/23
16.	Sample16	Nedigutha Village	11.11.2023	OCPL/AAQ/EMIL/16/11/23

17.	Sample17	NearECR-1	16.11.2023	OCPL/AAQ/EMIL/17/11/23
18.	Sample18	Near Canteen	16.11.2023	OCPL/AAQ/EMIL/18/11/23
19.	Sample19	Near Admin Building	16.11.2023	OCPL/AAQ/EMIL/19/11/23
20.	Sample20	Nedigutha Village	15.11.2023	OCPL/AAQ/EMIL/20/11/23
21.	Sample21	NearECR-1	20.11.2023	OCPL/AAQ/EMIL/21/11/23
22.	Sample22	Near Canteen	20.11.2023	OCPL/AAQ/EMIL/22/11/23
23.	Sample23	Near Admin Building	20.11.2023	OCPL/AAQ/EMIL/23/11/23
24.	Sample24	Nedigutha Village	18.11.2023	OCPL/AAQ/EMIL/24/11/23
25.	Sample25	NearECR-1	23.11.2023	OCPL/AAQ/EMIL/25/11/23
26.	Sample26	Near Canteen	23.11.2023	OCPL/AAQ/EMIL/26/11/23
27.	Sample27	Near Admin Building	23.11.2023	OCPL/AAQ/EMIL/27/11/23
28.	Sample28	Nedigutha Village	22.11.2023	OCPL/AAQ/EMIL/28/11/23
29.	Sample29	NearECR-1	27.11.2023	OCPL/AAQ/EMIL/29/11/23
30.	Sample30	Near Canteen	27.11.2023	OCPL/AAQ/EMIL/30/11/23
31.	Sample31	Near Admin Building	27.11.2023	OCPL/AAQ/EMIL/31/11/23
32.	Sample32	Nedigutha Village	25.11.2023	OCPL/AAQ/EMIL/32/11/23
33.	Sample33	NearECR-1	30.11.2023	OCPL/AAQ/EMIL/33/11/23
34.	Sample34	Near Canteen	30.11.2023	OCPL/AAQ/EMIL/34/11/23
35.	Sample35	Near Admin Building	30.11.2023	OCPL/AAQ/EMIL/35/11/23
36.	Sample36	Nedigutha Village	29.11.2023	OCPL/AAQ/EMIL/36/11/23

LOCATION: NEAR ECR-1

Parameters	Limit(µg/M3)	Date									
		02.11.23	06.11.23	09.11.23	13.11.23	16.11.23	20.11.23	23.11.23	27.11.23	30.11.23	Avg
PM10	100	88.8	86	84.9	88	86.2	90.6	88.2	88.6	92.6	88.21
PM2.5	60	57.4	58.8	60	58.9	56	59	59.5	54.8	56.4	52.17
Sulphur Dioxide (SO2)	80	36.2	34.8	35	38.4	38	36.8	38.4	34.6	38.6	36.75
Oxide of Nitrogen (NO2)	80	27.4	28	28.8	36.6	31.5	32.4	30.6	32	34.2	31.27
Lead(Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	172.4	172	174.8	170.6	171	176.8	177.4	175.8	174.6	173.93
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	35.8	36.4	38	38.2	36.8	36.4	37.2	35.9	38	36.96
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5,SO2,NO2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	**Limit (µg/ M^3)**	DATE									
		02.11.23	06.11.23	09.11.23	13.11.23	16.11.23	20.11.23	23.11.23	27.11.23	30.11.23	Avg
PM10	100	86.2	84	84.4	86.8	88.6	84.5	86.8	84.8	88.2	86.03
PM2.5	60	55.8	56	60	58	56.8	58.5	56.4	56.2	54.9	56.97
Sulphur Dioxide (SO_2)	80	41.6	40.2	38.9	42	40.8	42.8	44	41.9	46.2	42.04
Oxide of Nitrogen (NO_2)	80	38.2	36.4	38.8	42.8	40	41.9	42.6	41.8	44.2	40.74
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide(CO)(8Hrs)	2000	184.8	188	188.4	186.6	185.4	182.4	182.4	186.6	188.2	185.8
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	34.2	36.6	35.4	36.9	36.2	35.8	35.6	34.5	36	35.68
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM_{10}&$PM_{2.5}$,SO_2,NO_2,&CO has been done as per the IS Code IS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR ADMIN. BUILDING

Parameters	Limit (□g/ M^3)	DATE									
		02.11.23	06.11.23	09.11.23	13.11.23	16.11.23	20.11.23	23.11.23	27.11.23	30.11.23	Avg
PM10	100	88.2	86.8	88.6	88.9	90.2	84.6	92.8	92.6	94.2	89.65
PM2.5	60	59.2	58.8	59	58.2	58.8	59.2	58.4	58	56.4	59.33
Sulphur Dioxide (SO_2)	80	24.8	28	26.2	28.6	28.8	30.2	27.9	32	32.4	28.76
Oxide of Nitrogen(NO_2)	80	25.8	26	28.4	27.5	28.2	30.4	28	27.8	29	27.9
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	164.6	168	162.4	170.5	172	174.8	169.6	166.4	168	168.4
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	32.8	34	36.2	34.8	34	35.6	36.9	34	38.8	35.23
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM_{10}&$PM_{2.5}$, SO_2,NO_2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE									
		01.11.23	04.11.23	08.11.23	11.11.23	15.11.23	18.11.23	22.11.23	25.11.23	29.11.23	Avg
PM10	100	42.2	44.5	45.2	46.4	46.6	45.5	44.2	44	45.8	44.93
PM2.5	60	42.4	44	43.2	44.6	42.5	42.4	42.5	42.8	42	42.93
Sulphur Dioxide (SO_2)	80	18.4	15.9	20.4	20.4	21.6	18.5	18	17.2	16.5	18.54
Oxide of Nitrogen (NO_2)	80	17	17.9	18.2	18	17.6	17.5	16.8	17.9	18.8	17.74
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	145.6	146.8	144.4	142.8	144.8	146	140.4	142.6	141.2	143.84
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	12.8	12.6	14	14.4	14.8	16	12.2	11.6	12	13.37
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM_{10}& $PM_{2.5}$, SO_2, NO_2, &CO has been done as per the IS Code IS: 5182 PartIV,II,VI,X&XVII respectively

NOISE LEVEL MONITORING REPORT FOR THE MONTH OF NOVEMBER-2023

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF NOVEMBER LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area		✓			✓		
Near Back Gate Area		✓			✓		
Near Pellet Plant Area		✓			✓		
Near IOBP Area		✓			✓		

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	02.11.2023	OCPL/NL/EMIL/01/11/23
2.	Sample02	Near Back Gate Area	02.11.2023	OCPL/NL/EMIL/02/11/23
3.	Sample03	Near Pellet Plant Area	02.11.2023	OCPL/NL/EMIL/03/11/23
4.	Sample04	Near IOBP Area	02.11.2023	OCPL/NL/EMIL/04/11/23
5.	Sample05	Near Main Gate Area	06.11.2023	OCPL/NL/EMIL/05/11/23
6.	Sample06	Near Back Gate Area	06.11.2023	OCPL/NL/EMIL/06/11/23
7.	Sample07	Near Pellet Plant Area	06.11.2023	OCPL/NL/EMIL/07/11/23
8.	Sample08	Near IOBP Area	06.11.2023	OCPL/NL/EMIL/08/11/23
9.	Sample09	Near Main Gate Area	09.11.2023	OCPL/NL/EMIL/09/11/23
10.	Sample10	Near Back Gate Area	09.11.2023	OCPL/NL/EMIL/10/11/23
11.	Sample11	Near Pellet Plant Area	09.11.2023	OCPL/NL/EMIL/11/11/23
12.	Sample12	Near IOBP Area	09.11.2023	OCPL/NL/EMIL/12/11/23
13.	Sample13	Near Main Gate Area	13.11.2023	OCPL/NL/EMIL/13/11/23
14.	Sample14	Near Back Gate Area	13.11.2023	OCPL/NL/EMIL/14/11/23
15.	Sample15	Near Pellet Plant Area	13.11.2023	OCPL/NL/EMIL/15/11/23

16.	Sample16	Near IOBP Area	13.11.2023	OCPL/NL/EMIL/16/11/23
17.	Sample17	Near Main Gate Area	16.11.2023	OCPL/NL/EMIL/17/11/23
18.	Sample18	Near Back Gate Area	16.11.2023	OCPL/NL/EMIL/18/11/23
19.	Sample19	Near Pellet Plant Area	16.11.2023	OCPL/NL/EMIL/19/11/23
20.	Sample20	Near IOBP Area	16.11.2023	OCPL/NL/EMIL/20/11/23
21.	Sample21	Near Main Gate Area	20.11.2023	OCPL/NL/EMIL/21/11/23
22.	Sample22	Near Back Gate Area	20.11.2023	OCPL/NL/EMIL/22/11/23
23.	Sample23	Near Pellet Plant Area	20.11.2023	OCPL/NL/EMIL/23/11/23
24.	Sample24	Near IOBP Area	20.11.2023	OCPL/NL/EMIL/24/11/23
25.	Sample25	Near Main Gate Area	23.11.2023	OCPL/NL/EMIL/25/11/23
26.	Sample26	Near Back Gate Area	23.11.2023	OCPL/NL/EMIL/26/11/23
27.	Sample27	Near Pellet Plant Area	23.11.2023	OCPL/NL/EMIL/27/11/23
28.	Sample28	Near IOBP Area	23.11.2023	OCPL/NL/EMIL/28/11/23
29.	Sample29	Near Main Gate Area	27.11.2023	OCPL/NL/EMIL/29/11/23
30.	Sample30	Near Back Gate Area	27.11.2023	OCPL/NL/EMIL/30/11/23
31.	Sample31	Near Pellet Plant Area	27.11.2023	OCPL/NL/EMIL/31/11/23
32.	Sample32	Near IOBP Area	27.11.2023	OCPL/NL/EMIL/32/11/23
33.	Sample33	Near Main Gate Area	30.11.2023	OCPL/NL/EMIL/33/11/23
34.	Sample34	Near Back Gate Area	30.11.2023	OCPL/NL/EMIL/34/11/23
35.	Sample35	Near Pellet Plant Area	30.11.2023	OCPL/NL/EMIL/35/11/23
36.	Sample36	Near IOBP Area	30.11.2023	OCPL/NL/EMIL/36/11/23

Date of Monitoring: 02.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.5	66	52.9	48.2	30.7
2	Near Back Gate Area	41.8	45.2	38.2	35	31.5
3	Near Pellet Plant Area	64.6	65.8	68.8	62.2	24.8
4	Near IOBP Area	52.4	58.9	38.9	46.5	34.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:06.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	44.3	62.4	58.6	61.2	36
2	Near Back Gate Area	38	50.4	48.5	44.2	28
3	Near Pellet Plant Area	52.6	54	46.2	50.6	34.4
4	Near IOBP Area	57.5	56.2	42.5	45.2	29.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:09.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	61.4	60.8	62	54.2	38
2	Near Back Gate Area	46.2	52	42	38	38
3	Near Pellet Plant Area	50.6	58.8	62.6	42	34.5
4	Near IOBP Area	55	52.6	41.4	44.9	36.3
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:13.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	42.3	62.8	58.8	38.5	27.7
2	Near Back Gate Area	44.9	48.7	51.8	38.5	30.5
3	Near Pellet Plant Area	46.6	62.4	56.2	37.9	40.4
4	Near IOBP Area	48.8	64.8	58.7	42.6	44.8
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:16.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55.8	64	68.2	50.6	34
2	Near Back Gate Area	46.4	39.2	48	40.8	20.6
3	Near Pellet Plant Area	40.6	40.7	55.6	37.6	36.4
4	Near IOBP Area	38.3	48.7	46.8	38	35
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:20.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55.9	66	64.8	44.6	32
2	Near Back Gate Area	56.4	54.6	54.5	48.7	27.3
3	Near Pellet Plant Area	50.6	52.5	51.2	37.8	32
4	Near IOBP Area	51.8	52	52	55.9	28.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:23.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55.4	62.8	64.6	45	27
2	Near Back Gate Area	44.8	54.6	56.4	48.9	20.5
3	Near Pellet Plant Area	48.7	53.4	52.3	46.2	27.5
4	Near IOBP Area	45.6	32.8	44.8	39.8	21.4
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:27.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	58.6	65	52.4	38	32.5
2	Near Back Gate Area	46.8	66	54.8	44.9	32.5
3	Near Pellet Plant Area	56.2	62.4	57.8	42.6	28.6
4	Near IOBP Area	45.8	36.8	35	36	30.5
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:30.11.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	57.6	60.5	62.8	56.2	25
2	Near Back Gate Area	50.8	62	60.8	52.2	23.4
3	Near Pellet Plant Area	44.4	61.5	58.4	42	34
4	Near IOBP Area	32	56.7	34.8	48.6	24
5	**Ambient Noise Standard**	**Day Time (in dB(A))Leq**			**Night Time (in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF NOVEMBER-2023

SURFACE WATER ANALYSIS FOR THE MONTH OF NOVEMBER2023
SUMMARY SHEET OF SAMPLING(SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	07-NOVEMBER-2023	OCPL/SW/01/11/23
2.	Sample02	BAITARANI RIVE (NEARPLANTAREA)	07-NOVEMBER-2023	OCPL/SW/02/11/23
3.	Sample03	RESERVOUR POND INSIDEPLANT	07-NOVEMBER-2023	OCPL/SW/03/11/23
4.	Sample04	DALKI NALA NEAR PLANT	07-NOVEMBER-2023	OCPL/SW/04/11/23
5.	Sample05	NADIGUTH	07-NOVEMBER-2023	OCPL/SW/05/11/23

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/11/23		**Report No.-OCPL/EMIL/01/11/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-NOVEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-NOVEMBER-2023
Sample type	Surface Water	Date of Analysis	08-NOVEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-NOVEMBER-2023
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.8
4	pH	-	7.0
5	Total Suspended Solids	mg/L	9.2
6	Total Dissolved Solid	mg/L	438
7	BiochemicalOxygenDemand at27°C	mg/L	7.7
8	Chemical Oxygen Demand	mg/L	7.1
9	Total Residual Chlorine	mg/L	6.9
10	Alkalinity	mg/L	134
11	Calcium	mg/L	36.8
12	Magnesium	mg/L	26

13	Total Hardness as CaCO3	mg/L	64
14	Electrical Conductivity	µs/cm	188
15	Turbidity	NTU	7.1
16	Arsenic as As	µg/L	1.4
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	3.88
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	8.04
21	Fluoride as F	mg/L	0.22
22	Iron as Fe	mg/L	18.8
23	Nitrate	mg/L	7.6
24	Sodium as Na	mg/L	6.2
25	Potassium as K	mg/L	1.2
26	Sulfate	mg/L	0.48
27	Nitrate as NO3	mg/L	4.8
28	Total Silica as SiO2	mg/L	11.48
29	Total dissolved Solid	mg/L	438

Location: BAITARANI RIVER (NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/11/23		**Report No.-OCPL/EMIL/02/11/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (NEARPLANTAREA)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-NOVEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-NOVEMBER-2023
Sample type	Surface Water	Date of Analysis	08-NOVEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-NOVEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.6
4	pH	-	7.1
5	Total Suspended Solids	mg/L	10.2
6	Total Dissolved Solid	mg/L	386
7	BiochemicalOxygenDemand at27°C	mg/L	6.4
8	Chemical Oxygen Demand	mg/L	5.1
9	Total Residual Chlorine	mg/L	3.06
10	Alkalinity	mg/L	63.1
11	Calcium	mg/L	10.2
12	Magnesium	mg/L	7.84

13	Total Hardness asCaCO3	mg/L	39.6
14	Electrical Conductivity	µs/cm	179
15	Turbidity	NTU	12.8
16	Arsenic as As	µg/L	0.52
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	4.4
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	18.4
21	Fluoride as F	mg/L	0.43
22	Iron as Fe	mg/L	24.2
23	Nitrate	mg/L	3.08
24	Sodium as Na	mg/L	1.66
25	Potassium as K	mg/L	2.32
26	Sulfate	mg/L	<0.01
27	Nitrate as NO_3	mg/L	3.1
28	Total Silica as SiO_2	mg/L	1.64
29	Total dissolved Solid	mg/L	386

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/11/23		**Report No.-OCPL/EMIL/03/11/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR PONDINSIDEPLANT PREMISES**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-NOVEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-NOVEMBER-2023
Sample type	Surface Water	Date of Analysis	08-NOVEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-NOVEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.2
2	Odour	-	Agreeable
3	Temperature	°C	26.6
4	pH	-	7.1
5	Total Suspended Solids	mg/L	35
6	Total Dissolved Solid	mg/L	702
7	Biochemical Oxygen Demand at 27°C	mg/L	31.8
8	Chemical Oxygen Demand	mg/L	14.2
9	Total Residual Chlorine	mg/L	11.4
10	Alkalinity	mg/L	166
11	Calcium	mg/L	42

12	Magnesium	mg/L	29.6
13	Total Hardness as CaCO3	mg/L	164.8
14	Electrical Conductivity	µs/cm	284
15	Turbidity	NTU	31.4
16	Arsenic as As	µg/L	3.88
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	16.2
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	1.44
22	Iron as Fe	mg/L	32
23	Nitrate	mg/L	4.18
24	Sodium as Na	mg/L	9.2
25	Potassium as K	mg/L	2.84
26	Sulfate	mg/L	8.6
27	Nitrate as NO_3	mg/L	7.1
28	Total Silica as SiO_2	mg/L	8.8
29	Total dissolved Solid	mg/L	702

Location: DALKINALA, NEAR PLANT

Lab Sample Code: OCPL/SW/04/11/23		**Report No.-OCPL/EMIL/04/11/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**DALKI NALA, NEARPLANT**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-NOVEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-NOVEMBER-2023
Sample type	Surface Water	Date of Analysis	08-NOVEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-NOVEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.8
4	pH	-	6.9
5	Total Suspended Solids	mg/L	18
6	Total Dissolved Solid	mg/L	598
7	BiochemicalOxygenDemand at27°C	mg/L	12
8	Chemical Oxygen Demand	mg/L	6.1
9	Total Residual Chlorine	mg/L	2.44
10	Alkalinity	mg/L	174
11	Calcium	mg/L	46
12	Magnesium	mg/L	21.4
13	Total Hardness as CaCO3	mg/L	86

14	Electrical Conductivity	µs/cm	226
15	Turbidity	NTU	24
16	Arsenic as As	µg/L	0.36
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.48
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	11.2
21	Fluoride as F	mg/L	0.52
22	Iron as Fe	mg/L	25.6
23	Nitrate	mg/L	7.48
24	Sodium as Na	mg/L	6.62
25	Potassium as K	mg/L	4.6
26	Sulfate	mg/L	3.4
27	Nitrate as NO_3	mg/L	8.2
28	Total Silica as SiO_2	mg/L	6.4
29	Total dissolved Solid	mg/L	598

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/11/23		**Report No.-OCPL/EMIL/05/11/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-NOVEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-NOVEMBER-2023
Sample type	Surface Water	Date of Analysis	08-NOVEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-NOVEMBER-2023
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.4
4	pH	-	7.1
5	Total Suspended Solids	mg/L	18
6	Total Dissolved Solid	mg/L	572
7	BiochemicalOxygenDemand at27°C	mg/L	12.8
8	Chemical Oxygen Demand	mg/L	5.6
9	Total Residual Chlorine	mg/L	5.6
10	Alkalinity	mg/L	72.4
11	Calcium	mg/L	9.2
12	Magnesium	mg/L	7.42
13	Total Hardness as $CaCO_3$	mg/L	42

14	Electrical Conductivity	µs/cm	92
15	Turbidity	NTU	14.8
16	Arsenic as As	µg/L	<0.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.64
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	0.44
22	Iron as Fe	mg/L	28
23	Nitrate	mg/L	4.42
24	Sodium as Na	mg/L	6.24
25	Potassium as K	mg/L	3.0
26	Sulfate	mg/L	8.7
27	Nitrate as NO_3	mg/L	4
28	Total Silica as SiO_2	mg/L	4.86
29	Total dissolved Solid	mg/L	572

GROUND WATER ANALYSIS REPORT FOR THE MONTH OF NOVEMBER-2023

GROUNDWATERMONITORINGREPORTSUMMARYSHEETOFSAMPLING(GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	10-NOVEMBER-2023	OCPL/GW/01/11/23
2.	Sample02	NEDIGUTH	10-NOVEMBER-2023	OCPL/GW/02/11/23
3.	Sample03	TALASAHI	10-NOVEMBER-2023	OCPL/GW/03/11/23
4.	Sample04	PLANT-1(Near Canteen)	10-NOVEMBER-2023	OCPL/GW/04/11/23
5.	Sample05	PLANT-2(SLIMEPOND)	10-NOVEMBER-2023	OCPL/GW/05/11/23

ANALYSIS RESULT (With drinking water specifications, BIS (As per 10500- 2012BIS)

Sl. No.	TESTPARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	1.1	1.0	1.1	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	28.2	27.8	28	28.6	27.5		
4	pH	-	6.8	7.1	7.1	6.9	7.2	6.5-8.5	No relaxation
5	Total Hardness (as $CaCO_3$)	mg/L	56	52	48.6	58.2	62	300	600
6	Calcium	mg/L	8	7.8	11	12.2	14.8	75	200
7	Magnesium	mg/L	1.4	2	4.2	2.8	1.6	30	No relaxation
8	Chloride	mg/L	16	15.5	11.8	14	20	250	1000
9	Alkalinity	mg/L	18.2	14	22	16.4	22	200	600
10	Electrical Conductivity	µs/cm	65	51	68	76	88	--	--
11	Arsenic as As	µg/L	0.06	ND	0.02	ND	0.12	10	No relaxation
12	Lead as Pb	µg/L	ND	0.31	0.2	0.04	ND	10	No relaxation
13	Cadmium as Cd	µg/L	ND	ND	ND	0.02	0.04	3.0	No relaxation
14	Total Chromium as Cr	µg/L	0.2	ND	0.2	0.08	0.04	50	No relaxation

15	Zinc as Zn	µg/L	87	94.8	88.5	68	102	5000	No relaxation
16	Fluoride as F	mg/L	ND	0.02	ND	0.02	ND	1.0	1.9
17	Iron as Fe	µg/L	18	14.2	32	48	35	300	1000
18	Nitrate	mg/L	1.5	1.2	1.0	1.02	1.2	45	100
19	Sodium as Na	mg/L	2.2	3.6	4.0	5.2	5.8	150	No relaxation
20	Potassium as K	mg/L	ND	0.04	0.12	0.1	0.2	12	No relaxation
21	Sulfate	mg/L	ND	ND	0.05	0.02	0.4	200	400
22	Total Silica as SiO_2	mg/L	0.5	ND	0.66	ND	1.04	--	--
23	Total suspended Solid	mg/L	0.08	1.06	1.1	0.26	1.2	--	--
24	Total dissolved Solid	mg/L	85	72.4	75	94	79.4	250	2000
25	Turbidity	NTU	0.2	0.46	0.42	0.8	0.65	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORTFOR THE MONTH OF NOVEMBER-2023

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF NOVEMBER–2023

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	14-NOVEMBER-2023	OCPL/GWL/01/11/23
7.	Sample02	NEDIGUTH	14-NOVEMBER-2023	OCPL/GWL/02/11/23
8.	Sample03	TALASAHI	14-NOVEMBER-2023	OCPL/GWL/03/11/23
9.	Sample04	PLANT-1(Near Canteen)	14-NOVEMBER-2023	OCPL/GWL/04/11/23
10.	Sample05	PLANT-2(SLIMEPOND)	14-NOVEMBER-2023	OCPL/GWL/05/11/23

MONITORINGRESULT

Sl No.	Nameofthelocation	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dug well	0.8	8.1	6.69	--
2	NEDIGUTH	Dug well	1.2	9.4	7.11	--
3	TALASAHI	Dug well	1.0	8.6	7.19	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	62	12.1	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	60	37.88	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORTFOR THE MONTH OF NOVEMBER-2023

REPORTONSTACKMONITORINGFOR THEMONTHOFNOVEMBER–2023

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1					✓		
DGStack-2					✓		
Stack-1(Pellet Plant Process Stack)						✓	
Stack-2(Pellet Plant Dedusting Stack)						✓	

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/38
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**09.11.2023
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/10
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 09.11.2023

ANALYSISRESULT

A.	**General information about stack:**	
1.	Stack connected to	:DG-1
2.	Emission due to	:Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	:Circular
5.	Serial no.	:N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^oC)	76.2	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	283.4	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	12.6	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	682	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.2	--	IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	20.4	--	IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	6.6	--	IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	118.4	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	72.4	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	34.6	50	IS11255(PartI):1985,RA 2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/39
M/SESSELMINING&INDUSTRIESLTD	**Date** :09.11.2023
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/10
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :09.11.2023

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^{o}C)	84.6		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	316		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	31.2		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1643		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.6		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	25.8		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	14.8		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	147	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	76	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	34.6	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	10.11.2023
Stack-2	Pellet plant de-dusting stack	Electricity	10.11.2023

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(^oC)	VelocityNM^3/Hr
1	Pellet plant process stack	80	7146	94.2	35653
2	Pellet plant de-dusting stack	60	6568	88.4	36497

Stack No.	Stack Description	Carbon monoxide**(CO)** Mg/nm^3	Carbon dioxide**(CO2)** %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.45	154	124.2	182.4	75.6
2	Pellet plant de-dusting stack	<0.2	7.9	121.5	136	178.6	69.2

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF DECEMBER-2023 FOR ESSELMINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA,KEONJHAR

CONTENTS

AMBIENT AIR MONITORING REPORT FOR THE MONTH OF DECEMBER -2023

AMBIENTAIRMONITORINGDATA

LOCATION AND WEEKLYMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
NearECR-1			✓				✓
Near Canteen			✓				✓
Near Admin Building			✓				✓
Nadiguth Village		✓			✓		

SUMMARY SHEET OF SAMPLING

SlNo.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	NearECR-1	02.12.2023	OCPL/AAQ/EMIL/01/12/23
2.	Sample02	Near Canteen	02.12.2023	OCPL/AAQ/EMIL/02/12/23
3.	Sample03	Near Admin Building	02.12.2023	OCPL/AAQ/EMIL/03/12/23
4.	Sample04	Nedigutha Village	01.12.2023	OCPL/AAQ/EMIL/04/12/23
5.	Sample05	NearECR-1	06.12.2023	OCPL/AAQ/EMIL/05/12/23
6.	Sample06	Near Canteen	06.12.2023	OCPL/AAQ/EMIL/06/12/23
7.	Sample07	Near Admin Building	06.12.2023	OCPL/AAQ/EMIL/07/12/23
8.	Sample08	Nedigutha Village	04.12.2023	OCPL/AAQ/EMIL/08/12/23
9.	Sample09	NearECR-1	09.12.2023	OCPL/AAQ/EMIL/09/12/23
10.	Sample10	Near Canteen	09.12.2023	OCPL/AAQ/EMIL/10/12/23
11.	Sample11	Near Admin Building	09.12.2023	OCPL/AAQ/EMIL/11/12/23
12.	Sample12	Nedigutha Village	08.11.2023	OCPL/AAQ/EMIL/12/11/23
13.	Sample13	NearECR-1	13.11.2023	OCPL/AAQ/EMIL/13/11/23
14.	Sample14	Near Canteen	13.12.2023	OCPL/AAQ/EMIL/14/12/23
15.	Sample15	Near Admin Building	13.12.2023	OCPL/AAQ/EMIL/15/12/23
16.	Sample16	Nedigutha Village	11.12.2023	OCPL/AAQ/EMIL/16/12/23

17.	Sample17	NearECR-1	16.12.2023	OCPL/AAQ/EMIL/17/12/23
18.	Sample18	Near Canteen	16.12.2023	OCPL/AAQ/EMIL/18/12/23
19.	Sample19	Near Admin Building	16.12.2023	OCPL/AAQ/EMIL/19/12/23
20.	Sample20	Nedigutha Village	15.12.2023	OCPL/AAQ/EMIL/20/12/23
21.	Sample21	NearECR-1	20.12.2023	OCPL/AAQ/EMIL/21/12/23
22.	Sample22	Near Canteen	20.12.2023	OCPL/AAQ/EMIL/22/12/23
23.	Sample23	Near Admin Building	20.12.2023	OCPL/AAQ/EMIL/23/12/23
24.	Sample24	Nedigutha Village	18.12.2023	OCPL/AAQ/EMIL/24/12/23
25.	Sample25	NearECR-1	23.12.2023	OCPL/AAQ/EMIL/25/12/23
26.	Sample26	Near Canteen	23.12.2023	OCPL/AAQ/EMIL/26/12/23
27.	Sample27	Near Admin Building	23.12.2023	OCPL/AAQ/EMIL/27/12/23
28.	Sample28	Nedigutha Village	22.12.2023	OCPL/AAQ/EMIL/28/12/23
29.	Sample29	NearECR-1	27.12.2023	OCPL/AAQ/EMIL/29/12/23
30.	Sample30	Near Canteen	27.12.2023	OCPL/AAQ/EMIL/30/12/23
31.	Sample31	Near Admin Building	27.12.2023	OCPL/AAQ/EMIL/31/12/23
32.	Sample32	Nedigutha Village	25.12.2023	OCPL/AAQ/EMIL/32/12/23
33.	Sample33	NearECR-1	30.12.2023	OCPL/AAQ/EMIL/33/12/23
34.	Sample34	Near Canteen	30.12.2023	OCPL/AAQ/EMIL/34/12/23
35.	Sample35	Near Admin Building	30.12.2023	OCPL/AAQ/EMIL/35/12/23
36.	Sample36	Nedigutha Village	29.12.2023	OCPL/AAQ/EMIL/36/12/23

LOCATION: NEAR ECR-1

Parameters	Limit(µg/M3)	Date									
		02.12.23	06.12.23	09.12.23	13.12.23	16.12.23	20.12.23	23.12.23	27.12.23	30.12.23	Avg
PM10	100	88.8	86.3	84.9	88	86.2	92.6	88.2	88.6	92.6	88.21
PM2.5	60	57.4	58.8	60	58.2	56	59	59.5	54.8	56.4	52.17
Sulphur Dioxide (SO2)	80	36.2	34.8	35.7	38.4	38	36.8	38.4	34.6	38.6	36.75
Oxide of Nitrogen (NO2)	80	27.4	28.9	28.8	36.6	31.5	32.4	30.6	32	34.2	31.27
Lead(Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	172.5	172	174.8	170.6	171	176.8	177.4	175.8	174.6	173.93
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	35.8	36.4	38	38.2	36.7	36.4	37.2	35.9	38	36.96
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5,SO2,NO2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	Limit (µg/ M^3)	DATE									
		02.12.23	06.12.23	09.12.23	13.12.23	16.12.23	20.12.23	23.12.23	27.12.23	30.12.23	Avg
PM10	100	86.8	84	84.4	86.8	88.6	84.7	86.8	84.8	88.2	86.03
PM2.5	60	55.8	56	60	58	56.9	58.5	56.4	56.2	54.9	56.97
Sulphur Dioxide (SO2)	80	41.6	40.2	38.9	42.8	40.8	42.8	44	41.9	46.2	42.04
Oxide of Nitrogen (NO2)	80	38	36.4	38.8	42.8	40	41	42.6	41.8	44.2	40.74
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide(CO)(8Hrs)	2000	184.2	188	188.4	186.6	185.4	182.4	182.4	186.6	188.2	185.8
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH3)	400	34.2	36.6	35.4	36.9	36.5	35.8	35.6	34.5	36	35.68
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5,SO2,NO2,&CO has been done as per the IS Code IS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR ADMIN. BUILDING

Parameters	Limit (□g/ M^3)	DATE									
		02.12.23	06.12.23	09.12.23	13.12.23	16.12.23	20.12.23	23.12.23	27.12.23	30.12.23	Avg
PM10	100	88.2	86	88.6	88.9	90.2	84.6	92.8	92.6	94.2	89.65
PM2.5	60	59.2	58.8	59	58.2	58	59.2	58.4	58	56.4	59.33
Sulphur Dioxide (SO_2)	80	24.8	28	26.2	28	28.8	30.2	27.9	32	32.4	28.76
Oxide of Nitrogen(NO_2)	80	25.8	26	28.4	27.5	28	30.4	28	27.8	29	27.9
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	164.6	168	162.4	170.5	172	174.8	169.6	166.4	168	168.4
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	32.8	34	36.2	34	34	35.6	36	34	38.8	35.23
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM10&PM2.5, SO_2,NO_2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE									
		01.12.23	04.12.23	08.12.23	11.12.23	15.12.23	18.12.23	22.12.23	25.12.23	29.12.23	Avg
PM10	100	42	44.5	45.2	46.4	46	45.5	44.2	44	45.8	44.93
PM2.5	60	42.4	44	43.2	44.6	42.5	42.4	42.5	42.8	42	42.93
Sulphur Dioxide (SO2)	80	18.4	15.9	20.4	20.4	21.6	18	18	17.2	16.5	18.54
Oxide of Nitrogen (NO2)	80	17	17	18.2	18	17.6	17.5	16.8	17.9	18.8	17.74
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	145.6	146.8	144.4	142.8	144.8	146	140.4	142.6	141.2	143.84
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH3)	400	12	12.6	14	14.4	14.8	16	12.2	12.6	12	13.37
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM10& PM2.5, SO2, NO2, &CO has been done as per the IS Code IS: 5182 PartIV,II,VI,X&XVII respectively

NOISE LEVEL MONITORING REPORT FOR THE MONTH OF DECEMBER-2023

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF DECEMBER LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area			✓				✓
Near Back Gate Area			✓				✓
Near Pellet Plant Area			✓				✓
Near IOBP Area			✓				✓

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	02.12.2023	OCPL/NL/EMIL/01/12/23
2.	Sample02	Near Back Gate Area	02.12.2023	OCPL/NL/EMIL/02/12/23
3.	Sample03	Near Pellet Plant Area	02.12.2023	OCPL/NL/EMIL/03/12/23
4.	Sample04	Near IOBP Area	02.12.2023	OCPL/NL/EMIL/04/12/23
5.	Sample05	Near Main Gate Area	06.12.2023	OCPL/NL/EMIL/05/12/23
6.	Sample06	Near Back Gate Area	06.12.2023	OCPL/NL/EMIL/06/12/23
7.	Sample07	Near Pellet Plant Area	06.12.2023	OCPL/NL/EMIL/07/12/23
8.	Sample08	Near IOBP Area	06.12.2023	OCPL/NL/EMIL/08/12/23
9.	Sample09	Near Main Gate Area	09.12.2023	OCPL/NL/EMIL/09/12/23
10.	Sample10	Near Back Gate Area	09.12.2023	OCPL/NL/EMIL/10/12/23
11.	Sample11	Near Pellet Plant Area	09.12.2023	OCPL/NL/EMIL/11/12/23
12.	Sample12	Near IOBP Area	09.12.2023	OCPL/NL/EMIL/12/12/23
13.	Sample13	Near Main Gate Area	13.12.2023	OCPL/NL/EMIL/13/12/23
14.	Sample14	Near Back Gate Area	13.12.2023	OCPL/NL/EMIL/14/12/23
15.	Sample15	Near Pellet Plant Area	13.12.2023	OCPL/NL/EMIL/15/12/23

16.	Sample16	Near IOBP Area	13.12.2023	OCPL/NL/EMIL/16/12/23
17.	Sample17	Near Main Gate Area	16.12.2023	OCPL/NL/EMIL/17/12/23
18.	Sample18	Near Back Gate Area	16.12.2023	OCPL/NL/EMIL/18/12/23
19.	Sample19	Near Pellet Plant Area	16.12.2023	OCPL/NL/EMIL/19/12/23
20.	Sample20	Near IOBP Area	16.12.2023	OCPL/NL/EMIL/20/12/23
21.	Sample21	Near Main Gate Area	20.12.2023	OCPL/NL/EMIL/21/12/23
22.	Sample22	Near Back Gate Area	20.12.2023	OCPL/NL/EMIL/22/12/23
23.	Sample23	Near Pellet Plant Area	20.12.2023	OCPL/NL/EMIL/23/12/23
24.	Sample24	Near IOBP Area	20.12.2023	OCPL/NL/EMIL/24/12/23
25.	Sample25	Near Main Gate Area	23.12.2023	OCPL/NL/EMIL/25/12/23
26.	Sample26	Near Back Gate Area	23.12.2023	OCPL/NL/EMIL/26/12/23
27.	Sample27	Near Pellet Plant Area	23.12.2023	OCPL/NL/EMIL/27/12/23
28.	Sample28	Near IOBP Area	23.12.2023	OCPL/NL/EMIL/28/12/23
29.	Sample29	Near Main Gate Area	27.12.2023	OCPL/NL/EMIL/29/12/23
30.	Sample30	Near Back Gate Area	27.12.2023	OCPL/NL/EMIL/30/12/23
31.	Sample31	Near Pellet Plant Area	27.12.2023	OCPL/NL/EMIL/31/12/23
32.	Sample32	Near IOBP Area	27.12.2023	OCPL/NL/EMIL/32/12/23
33.	Sample33	Near Main Gate Area	30.12.2023	OCPL/NL/EMIL/33/12/23
34.	Sample34	Near Back Gate Area	30.12.2023	OCPL/NL/EMIL/34/12/23
35.	Sample35	Near Pellet Plant Area	30.12.2023	OCPL/NL/EMIL/35/12/23
36.	Sample36	Near IOBP Area	30.12.2023	OCPL/NL/EMIL/36/12/23

Date of Monitoring: 02.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63	66	52.9	48.2	30.7
2	Near Back Gate Area	41.8	45.2	38.2	35	31.5
3	Near Pellet Plant Area	64.6	65.8	68.8	62.2	24.8
4	Near IOBP Area	52.4	58	38.9	46.5	34.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:06.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	44.3	62	58.6	61.2	36
2	Near Back Gate Area	38	50.4	48.5	44.2	28
3	Near Pellet Plant Area	52.6	54	46	50.6	34.4
4	Near IOBP Area	57.5	56.2	42.5	45.2	29.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:09.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	61.7	60.8	62	54.2	38
2	Near Back Gate Area	46.2	52	42	38	38
3	Near Pellet Plant Area	50.6	58.8	62	42	34.5
4	Near IOBP Area	55	52.6	41.4	44.9	36.3
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:13.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	42.9	62.9	59	38.5	27.8
2	Near Back Gate Area	44.9	48.7	51.8	38.5	30.5
3	Near Pellet Plant Area	46.6	62.8	56.2	37.9	40.4
4	Near IOBP Area	48.8	64.8	58.7	42.6	44.8
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:16.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	58.9	64	68.2	52	34
2	Near Back Gate Area	46.3	39.2	48	40.8	20.6
3	Near Pellet Plant Area	40.6	40.5	55.6	37.6	36.4
4	Near IOBP Area	38.3	48.7	46.9	38	35
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:20.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	58.2	66	64.8	44.6	32
2	Near Back Gate Area	56.4	54.6	54.5	48.7	27.3
3	Near Pellet Plant Area	50.6	52.5	51	37.8	32
4	Near IOBP Area	51.8	52	52	55.9	28.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:23.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	60.3	62.8	64.6	45	27
2	Near Back Gate Area	44.8	54.6	56.4	48.9	20.5
3	Near Pellet Plant Area	48.7	53.4	52.3	46.2	27.5
4	Near IOBP Area	45.6	32.8	44.8	39.8	21.4
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:27.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	58.6	65.7	52.4	38	32.5
2	Near Back Gate Area	46.8	65	54.8	44.5	32.5
3	Near Pellet Plant Area	56.2	62.4	57.8	42	28.6
4	Near IOBP Area	45.8	36.8	35	36	30.5
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:30.12.2023

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	57.3	60.2	62.8	56.2	25
2	Near Back Gate Area	50.8	62	60.8	52.2	23.4
3	Near Pellet Plant Area	44.4	61.5	58	42	34
4	Near IOBP Area	32	56.7	34.8	48.6	24.9
5	**Ambient Noise Standard**	**Day Time (in dB(A))Leq**			**Night Time (in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF DECEMBER-2023

SURFACE WATER ANALYSIS FOR THE MONTH OF DECEMBER2023
SUMMARY SHEET OF SAMPLING(SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	07-DECEMBER-2023	OCPL/SW/01/12/23
2.	Sample02	BAITARANI RIVE (NEARPLANTAREA)	07-DECEMBER-2023	OCPL/SW/02/12/23
3.	Sample03	RESERVOUR POND INSIDEPLANT	07-DECEMBER-2023	OCPL/SW/03/12/23
4.	Sample04	DALKI NALA NEAR PLANT	07-DECEMBER-2023	OCPL/SW/04/12/23
5.	Sample05	NADIGUTH	07-DECEMBER-2023	OCPL/SW/05/12/23

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/12/23		**Report No.-OCPL/EMIL/01/12/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-DECEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-DECEMBER-2023
Sample type	Surface Water	Date of Analysis	08-DECEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-DECEMBER-2023
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	35.9
4	pH	-	7.0
5	Total Suspended Solids	mg/L	9.1
6	Total Dissolved Solid	mg/L	439
7	BiochemicalOxygenDemand at27°C	mg/L	7.7
8	Chemical Oxygen Demand	mg/L	7.1
9	Total Residual Chlorine	mg/L	6.9
10	Alkalinity	mg/L	134
11	Calcium	mg/L	36.8
12	Magnesium	mg/L	26

13	Total Hardness as CaCO3	mg/L	64
14	Electrical Conductivity	µs/cm	188
15	Turbidity	NTU	7.1
16	Arsenic as As	µg/L	1.4
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	3.88
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	8.04
21	Fluoride as F	mg/L	0.22
22	Iron as Fe	mg/L	18.9
23	Nitrate	mg/L	7.6
24	Sodium as Na	mg/L	6.2
25	Potassium as K	mg/L	1.2
26	Sulfate	mg/L	0.48
27	Nitrate as NO3	mg/L	4.8
28	Total Silica as SiO2	mg/L	11.48
29	Total dissolved Solid	mg/L	439

Location: BAITARANI RIVER (NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/12/23		**Report No.-OCPL/EMIL/02/12/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (NEARPLANTAREA)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-DECEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-DECEMBER-2023
Sample type	Surface Water	Date of Analysis	08-DECEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-DECEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.9
4	pH	-	7.1
5	Total Suspended Solids	mg/L	10.2
6	Total Dissolved Solid	mg/L	487
7	BiochemicalOxygenDemand at27°C	mg/L	6.4
8	Chemical Oxygen Demand	mg/L	5.1
9	Total Residual Chlorine	mg/L	3.06
10	Alkalinity	mg/L	63.1
11	Calcium	mg/L	10.2
12	Magnesium	mg/L	7.84

13	Total Hardness asCaCO3	mg/L	39.6
14	Electrical Conductivity	µs/cm	179
15	Turbidity	NTU	12.8
16	Arsenic as As	µg/L	0.52
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	4.4
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	18.4
21	Fluoride as F	mg/L	0.43
22	Iron as Fe	mg/L	24.2
23	Nitrate	mg/L	3.08
24	Sodium as Na	mg/L	1.66
25	Potassium as K	mg/L	2.32
26	Sulfate	mg/L	<0.01
27	Nitrate as NO3	mg/L	3.1
28	Total Silica as SiO2	mg/L	1.64
29	Total dissolved Solid	mg/L	487

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/12/23		**Report No.-OCPL/EMIL/03/12/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR PONDINSIDEPLANT PREMISES**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-DECEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-DECEMBER-2023
Sample type	Surface Water	Date of Analysis	08-DECEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-DECEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.2
2	Odour	-	Agreeable
3	Temperature	°C	26.6
4	pH	-	7.1
5	Total Suspended Solids	mg/L	35.2
6	Total Dissolved Solid	mg/L	712
7	Biochemical Oxygen Demand at 27°C	mg/L	31.8
8	Chemical Oxygen Demand	mg/L	14.2
9	Total Residual Chlorine	mg/L	11.4
10	Alkalinity	mg/L	166
11	Calcium	mg/L	42

12	Magnesium	mg/L	29.6
13	Total Hardness as CaCO3	mg/L	164.8
14	Electrical Conductivity	µs/cm	284
15	Turbidity	NTU	31.4
16	Arsenic as As	µg/L	3.88
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	16.2
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	1.44
22	Iron as Fe	mg/L	32
23	Nitrate	mg/L	4.18
24	Sodium as Na	mg/L	9.2
25	Potassium as K	mg/L	2.84
26	Sulfate	mg/L	8.6
27	Nitrate as NO3	mg/L	7.1
28	Total Silica as SiO2	mg/L	8.8
29	Total dissolved Solid	mg/L	702

Location: DALKINALA, NEAR PLANT

Lab Sample Code: OCPL/SW/04/12/23		**Report No.-OCPL/EMIL/04/12/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**DALKI NALA, NEARPLANT**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-DECEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-DECEMBER-2023
Sample type	Surface Water	Date of Analysis	08-DECEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-DECEMBER-2023
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.8
4	pH	-	6.9
5	Total Suspended Solids	mg/L	18.2
6	Total Dissolved Solid	mg/L	598
7	BiochemicalOxygenDemand at27°C	mg/L	12
8	Chemical Oxygen Demand	mg/L	6.1
9	Total Residual Chlorine	mg/L	2.44
10	Alkalinity	mg/L	165
11	Calcium	mg/L	46
12	Magnesium	mg/L	21.4
13	Total Hardness as CaCO3	mg/L	86

14	Electrical Conductivity	µs/cm	226
15	Turbidity	NTU	24
16	Arsenic as As	µg/L	0.36
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.48
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	11.2
21	Fluoride as F	mg/L	0.52
22	Iron as Fe	mg/L	25.6
23	Nitrate	mg/L	7.48
24	Sodium as Na	mg/L	6.62
25	Potassium as K	mg/L	4.6
26	Sulfate	mg/L	3.4
27	Nitrate as NO_3	mg/L	8.2
28	Total Silica as SiO_2	mg/L	6.4
29	Total dissolved Solid	mg/L	597

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/12/23		**Report No.-OCPL/EMIL/05/12/23**	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07-DECEMBER-2023
Sample quantity	1no.sX1Lit.	Date of sample received	08-DECEMBER-2023
Sample type	Surface Water	Date of Analysis	08-DECEMBER-2023
Required parameters	As described in W/O	Date of Issue of report	16-DECEMBER-2023
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	26.4
4	pH	-	7.1
5	Total Suspended Solids	mg/L	18.1
6	Total Dissolved Solid	mg/L	574
7	BiochemicalOxygenDemand at27°C	mg/L	12.8
8	Chemical Oxygen Demand	mg/L	5.6
9	Total Residual Chlorine	mg/L	5.6
10	Alkalinity	mg/L	72.4
11	Calcium	mg/L	9.2
12	Magnesium	mg/L	7.3
13	Total Hardness as CaCO3	mg/L	42

14	Electrical Conductivity	µs/cm	92
15	Turbidity	NTU	14.8
16	Arsenic as As	µg/L	<0.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.64
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	0.44
22	Iron as Fe	mg/L	28
23	Nitrate	mg/L	4.43
24	Sodium as Na	mg/L	6.24
25	Potassium as K	mg/L	3.0
26	Sulfate	mg/L	8.7
27	Nitrate as NO_3	mg/L	4
28	Total Silica as SiO_2	mg/L	4.86
29	Total dissolved Solid	mg/L	574

GROUND WATER ANALYSIS REPORT FOR THE MONTH OF DECEMBER-2023

GROUNDWATERMONITORINGREPORTSUMMARYSHEETOFSAMPLING(GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	10-DECEMBER-2023	OCPL/GW/01/12/23
2.	Sample02	NEDIGUTH	10-DECEMBER-2023	OCPL/GW/02/12/23
3.	Sample03	TALASAHI	10-DECEMBER-2023	OCPL/GW/03/12/23
4.	Sample04	PLANT-1(Near Canteen)	10-DECEMBER-2023	OCPL/GW/04/12/23
5.	Sample05	PLANT-2(SLIMEPOND)	10-DECEMBER-2023	OCPL/GW/05/12/23

ANALYSIS RESULT (With drinking water specifications, BIS (As per 10500- 2012BIS)

Sl. No.	TESTPARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	1.1	1.0	1.1	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	28	27.8	28	28.6	27		
4	pH	-	6.8	7.1	7	6.9	7.2	6.5-8.5	No relaxation
5	Total Hardness (as CaCO3)	mg/L	56	52	48	58.2	62	300	600
6	Calcium	mg/L	8	7	11	12.2	14.8	75	200
7	Magnesium	mg/L	1.4	2	4	2.8	1.6	30	No relaxation
8	Chloride	mg/L	16	15.5	11.8	14	20	250	1000
9	Alkalinity	mg/L	18	14	22	16.4	22	200	600
10	Electrical Conductivity	µs/cm	67	51	68	76	88	--	--
11	Arsenic as As	µg/L	0.06	ND	0.02	ND	0.12	10	No relaxation
12	Lead as Pb	µg/L	ND	0.31	0.2	0.04	ND	10	No relaxation
13	Cadmium as Cd	µg/L	ND	ND	ND	0.02	0.04	3.0	No relaxation
14	Total Chromium as Cr	µg/L	0.2	ND	0.2	0.08	0.04	50	No relaxation

15	Zinc as Zn	µg/L	87	94.8	88.5	68	102	5000	No relaxation
16	Fluoride as F	mg/L	ND	0.02	ND	0.02	ND	1.0	1.9
17	Iron as Fe	µg/L	18	14.2	32	48	35	300	1000
18	Nitrate	mg/L	1.5	1.2	1.0	1.02	1.2	45	100
19	Sodium as Na	mg/L	2.2	3.6	4.0	5.2	5.8	150	No relaxation
20	Potassium as K	mg/L	ND	0.04	0.12	0.1	0.2	12	No relaxation
21	Sulfate	mg/L	ND	ND	0.05	0.02	0.4	200	400
22	Total Silica as SiO_2	mg/L	0.5	ND	0.66	ND	1.04	--	--
23	Total suspended Solid	mg/L	0.08	1.06	1.1	0.26	1.2	--	--
24	Total dissolved Solid	mg/L	85	72.4	75	94	79.4	250	2000
25	Turbidity	NTU	0.2	0.46	0.42	0.8	0.65	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORTFOR THE MONTH OF DECEMBER-2023

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF DECEMBER–2023

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	14-DECEMBER-2023	OCPL/GWL/01/12/23
7.	Sample02	NEDIGUTH	14-DECEMBER-2023	OCPL/GWL/02/12/23
8.	Sample03	TALASAHI	14-DECEMBER-2023	OCPL/GWL/03/12/23
9.	Sample04	PLANT-1(Near Canteen)	14-DECEMBER-2023	OCPL/GWL/04/12/23
10.	Sample05	PLANT-2(SLIMEPOND)	14-DECEMBER-2023	OCPL/GWL/05/12/23

MONITORINGRESULT

Sl No.	Nameofthelocation	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dug well	0.82	8.1	6.7	--
2	NEDIGUTH	Dug well	1.2	9.4	7.11	--
3	TALASAHI	Dug well	1.0	8.6	7.19	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	62	12.1	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	60	37.8	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORTFOR THE MONTH OF DECEMBER-2023

REPORTONSTACKMONITORINGFOR THEMONTHOFDECEMBER–2023

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1			✓				
DGStack-2			✓				
Stack-1(Pellet Plant Process Stack)				✓			
Stack-2(Pellet Plant Dedusting Stack)				✓			

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/38
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**09.12.2023
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/12
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 09.12.2023

ANALYSISRESULT

A.	**General information about stack:**	
1.	Stack connected to	:DG-1
2.	Emission due to	:Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	:Circular
5.	Serial no.	:N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(°C)	76.7	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	282.4	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	12.5	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	685	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.3	--	IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	20.4	--	IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	6.6	--	IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	118.2	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	72.5	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	37.6	50	IS11255(PartI):1985,RA 2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/39
M/SESSELMINING&INDUSTRIESLTD	**Date** :09.12.2023
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/13
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :09.12.2023

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(°C)	84.3		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	317		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	31.2		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1666		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.6		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	25.8		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	14		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	149	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	76	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	34.6	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	10.12.2023
Stack-2	Pellet plant de-dusting stack	Electricity	10.12.2023

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(°C)	VelocityNM^3/Hr
1	Pellet plant process stack	80	7144	94.5	35655
2	Pellet plant de-dusting stack	60	6565	89.4	36499

Stack No.	Stack Description	Carbon monoxide(**CO**) Mg/nm^3	Carbon dioxide(**CO2**) %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.45	146	125.2	181.4	75
2	Pellet plant de-dusting stack	<0.2	7.8	121.5	136	178.6	69.3

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF JANUARY-2024 FOR ESSELMINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA,KEONJHAR

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AMBIENT AIR MONITORING REPORT FOR THE MONTH OF JANUARY -2024

AMBIENT AIR QUALITY MONITORING DATA

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
NearECR-1		✓				✓	
Near Canteen		✓				✓	
Near Admin Building		✓				✓	
Nadiguth Village			✓				✓

SUMMARY SHEET OF SAMPLING

SlNo.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near ECR-1	01.01.2024	OCPL/AAQ/EMIL/01/01/24
2.	Sample02	Near Canteen	01.01.2024	OCPL/AAQ/EMIL/02/01/24
3.	Sample03	Near Admin Building	01.01.2024	OCPL/AAQ/EMIL/03/01/24
4.	Sample04	Nedigutha Village	02.01.2024	OCPL/AAQ/EMIL/04/01/24
5.	Sample05	NearECR-1	05.01.2024	OCPL/AAQ/EMIL/05/01/24
6.	Sample06	Near Canteen	05.01.2024	OCPL/AAQ/EMIL/06/01/24
7.	Sample07	Near Admin Building	05.01.2024	OCPL/AAQ/EMIL/07/01/24
8.	Sample08	Nedigutha Village	06.01.2024	OCPL/AAQ/EMIL/08/01/24
9.	Sample09	NearECR-1	08.01.2024	OCPL/AAQ/EMIL/09/01/24
10.	Sample10	Near Canteen	08.01.2024	OCPL/AAQ/EMIL/10/01/24
11.	Sample11	Near Admin Building	08.01.2024	OCPL/AAQ/EMIL/11/01/24
12.	Sample12	Nedigutha Village	09.01.2024	OCPL/AAQ/EMIL/12/01/24
13.	Sample13	NearECR-1	12.01.2024	OCPL/AAQ/EMIL/13/01/24
14.	Sample14	Near Canteen	12.01.2024	OCPL/AAQ/EMIL/14/01/24
15.	Sample15	Near Admin Building	12.01.2024	OCPL/AAQ/EMIL/15/01/24
16.	Sample16	Nedigutha Village	13.01.2024	OCPL/AAQ/EMIL/16/01/24

17.	Sample17	NearECR-1	15.01.2024	OCPL/AAQ/EMIL/17/01/24
18.	Sample18	Near Canteen	15.01.2024	OCPL/AAQ/EMIL/18/01/24
19.	Sample19	Near Admin Building	15.01.2024	OCPL/AAQ/EMIL/19/01/24
20.	Sample20	Nedigutha Village	16.01.2024	OCPL/AAQ/EMIL/20/01/24
21.	Sample21	NearECR-1	19.01.2024	OCPL/AAQ/EMIL/21/01/24
22.	Sample22	Near Canteen	19.01.2024	OCPL/AAQ/EMIL/22/01/24
23.	Sample23	Near Admin Building	19.01.2024	OCPL/AAQ/EMIL/23/01/24
24.	Sample24	Nedigutha Village	20.01.2024	OCPL/AAQ/EMIL/24/01/24
25.	Sample25	NearECR-1	22.01.2024	OCPL/AAQ/EMIL/25/01/24
26.	Sample26	Near Canteen	22.01.2024	OCPL/AAQ/EMIL/26/01/24
27.	Sample27	Near Admin Building	22.01.2024	OCPL/AAQ/EMIL/27/01/24
28.	Sample28	Nedigutha Village	23.01.2024	OCPL/AAQ/EMIL/28/01/24
29.	Sample29	NearECR-1	26.01.2024	OCPL/AAQ/EMIL/29/01/24
30.	Sample30	Near Canteen	26.01.2024	OCPL/AAQ/EMIL/30/01/24
31.	Sample31	Near Admin Building	26.01.2024	OCPL/AAQ/EMIL/31/01/24
32.	Sample32	Nedigutha Village	27.01.2024	OCPL/AAQ/EMIL/32/01/24
33.	Sample33	NearECR-1	29.01.2024	OCPL/AAQ/EMIL/33/01/24
34.	Sample34	Near Canteen	29.01.2024	OCPL/AAQ/EMIL/34/01/24
35.	Sample35	Near Admin Building	29.01.2024	OCPL/AAQ/EMIL/35/01/24
36.	Sample36	Nedigutha Village	30.01.2024	OCPL/AAQ/EMIL/36/01/24

LOCATION: NEAR ECR-1

Parameters	Limit(µg/M3)	Date									
		01.01.24	05.01.24	08.01.24	12.01.24	15.01.24	19.01.24	22.01.24	26.01.24	29.01.24	Avg
PM10	100	86.70	87.32	85.70	89.17	87.09	91.29	92.34	89.53	86.14	88.87
PM2.5	60	57.97	59.98	55.19	58.72	56.83	59.89	59.61	55.64	57.08	53.26
Sulphur Dioxide (SO2)	80	36.75	35.48	36.46	39.33	38.52	37.36	39.59	35.73	39.64	37.91
Oxide of Nitrogen (NO2)	80	28.37	29.54	29.73	37.44	32.38	33.19	31.28	32.52	34.83	32.03
Lead(Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	173.33	173.12	175.43	171.68	171.81	177.54	177.97	176.93	175.55	174.89
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	36.89	37.27	39.11	39.10	37.68	37.08	37.72	37.03	38.91	37.94
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5,SO2,NO2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	Limit (µg/ M^3)	DATE									
		01.01.24	05.01.24	08.01.24	12.01.24	15.01.24	19.01.24	22.01.24	26.01.24	29.01.24	Avg
PM10	100	86.45	86.95	86.09	88.74	86.91	91.34	91.99	89.25	86.34	89.03
PM2.5	60	58.41	59.45	55.87	59.36	56.74	59.55	55.48	55.63	57.10	53.10
Sulphur Dioxide (SO_2)	80	37.40	35.78	36.70	38.95	38.91	37.50	39.33	35.74	39.21	37.41
Oxide of Nitrogen (NO_2)	80	28.12	29.42	29.91	37.54	32.42	33.26	31.44	33.14	35.00	32.27
Lead (Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	173.50	172.89	175.38	171.69	171.60	177.82	178.25	176.50	175.31	174.45
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH_3)	400	36.45	37.36	39.15	38.90	37.48	37.25	37.98	36.68	38.89	37.88
Benzene (C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5, SO_2, NO_2, &CO has been done as per the IS Code IS:5182 PartIV, II, VI, X&XVII respectively

LOCATION: NEAR ADMIN. BUILDING

Parameters	Limit (□g/ M^3)	DATE									
		01.01.24	05.01.24	08.01.24	12.01.24	15.01.24	19.01.24	22.01.24	26.01.24	29.01.24	Avg
PM10	100	89.06	86.70	89.13	90.00	91.25	85.28	93.55	93.16	94.74	90.85
PM2.5	60	59.30	59.73	59.51	58.94	58.88	58.30	58.96	58.77	57.28	55.08
Sulphur Dioxide (SO_2)	80	25.91	28.54	27.12	28.53	29.38	31.26	28.66	32.73	33.33	29.84
Oxide of Nitrogen(NO_2)	80	26.62	27.17	28.99	28.04	28.63	31.31	28.87	28.79	29.58	28.65
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	165.45	169.11	162.98	171.24	172.69	175.47	170.37	167.02	169.00	169.42
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	33.80	34.97	37.30	34.91	35.13	36.64	37.15	35.04	39.79	36.00
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM_{10}&$PM_{2.5}$, SO_2,NO_2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE									
		02.01.24	06.01.24	09.01.24	13.01.24	16.01.24	20.01.24	23.01.24	27.01.24	30.01.24	Avg
PM10	100	42.57	45.17	46.24	47.21	46.72	46.56	45.31	44.72	46.73	45.85
PM2.5	60	43.51	45.09	43.74	45.66	43.52	43.30	43.65	43.62	42.83	43.49
Sulphur Dioxide (SO_2)	80	19.22	16.98	21.21	21.31	22.71	18.69	18.94	18.13	17.33	19.48
Oxide of Nitrogen (NO_2)	80	17.98	17.53	18.98	19.17	18.55	18.41	17.76	18.66	19.87	18.34
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	146.68	147.91	145.05	144.00	145.34	147.12	141.00	143.25	142.35	144.43
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	13.00	13.23	15.00	15.04	15.95	16.85	12.83	13.52	12.93	14.05
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM_{10}& $PM_{2.5}$, SO_2, NO_2, &CO has been done as per the IS Code IS: 5182 PartIV,II,VI,X&XVII respectively

NOISE LEVEL MONITORING REPORT FOR THE MONTH OF JANUARY-2024

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF JANUARY

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area		✓			✓		
Near Back Gate Area		✓			✓		
Near Pellet Plant Area		✓			✓		
Near IOBP Area		✓			✓		

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	01.01.2024	OCPL/NL/EMIL/01/01/24
2.	Sample02	Near Back Gate Area	01.01.2024	OCPL/NL/EMIL/02/01/24
3.	Sample03	Near Pellet Plant Area	01.01.2024	OCPL/NL/EMIL/03/01/24
4.	Sample04	Near IOBP Area	01.01.2024	OCPL/NL/EMIL/04/01/24
5.	Sample05	Near Main Gate Area	05.01.2024	OCPL/NL/EMIL/05/01/24
6.	Sample06	Near Back Gate Area	05.01.2024	OCPL/NL/EMIL/06/01/24
7.	Sample07	Near Pellet Plant Area	05.01.2024	OCPL/NL/EMIL/07/01/24
8.	Sample08	Near IOBP Area	05.01.2024	OCPL/NL/EMIL/08/01/24
9.	Sample09	Near Main Gate Area	08.01.2024	OCPL/NL/EMIL/09/01/24
10.	Sample10	Near Back Gate Area	08.01.2024	OCPL/NL/EMIL/10/01/24
11.	Sample11	Near Pellet Plant Area	08.01.2024	OCPL/NL/EMIL/11/01/24
12.	Sample12	Near IOBP Area	08.01.2024	OCPL/NL/EMIL/12/01/24
13.	Sample13	Near Main Gate Area	12.01.2024	OCPL/NL/EMIL/13/01/24
14.	Sample14	Near Back Gate Area	12.01.2024	OCPL/NL/EMIL/14/01/24
15.	Sample15	Near Pellet Plant Area	12.01.2024	OCPL/NL/EMIL/15/01/24
16.	Sample16	Near IOBP Area	12.01.2024	OCPL/NL/EMIL/16/01/24

17.	Sample17	Near Main Gate Area	15.01.2024	OCPL/NL/EMIL/17/01/24
18.	Sample18	Near Back Gate Area	15.01.2024	OCPL/NL/EMIL/18/01/24
19.	Sample19	Near Pellet Plant Area	15.01.2024	OCPL/NL/EMIL/19/01/24
20.	Sample20	Near IOBP Area	15.01.2024	OCPL/NL/EMIL/20/01/24
21.	Sample21	Near Main Gate Area	19.01.2024	OCPL/NL/EMIL/21/01/24
22.	Sample22	Near Back Gate Area	19.01.2024	OCPL/NL/EMIL/22/01/24
23.	Sample23	Near Pellet Plant Area	19.01.2024	OCPL/NL/EMIL/23/01/24
24.	Sample24	Near IOBP Area	19.01.2024	OCPL/NL/EMIL/24/01/24
25.	Sample25	Near Main Gate Area	22.01.2024	OCPL/NL/EMIL/25/01/24
26.	Sample26	Near Back Gate Area	22.01.2024	OCPL/NL/EMIL/26/01/24
27.	Sample27	Near Pellet Plant Area	22.01.2024	OCPL/NL/EMIL/27/01/24
28.	Sample28	Near IOBP Area	22.01.2024	OCPL/NL/EMIL/28/01/24
29.	Sample29	Near Main Gate Area	26.01.2024	OCPL/NL/EMIL/29/01/24
30.	Sample30	Near Back Gate Area	26.01.2024	OCPL/NL/EMIL/30/01/24
31.	Sample31	Near Pellet Plant Area	26.01.2024	OCPL/NL/EMIL/31/01/24
32.	Sample32	Near IOBP Area	26.01.2024	OCPL/NL/EMIL/32/01/24
33.	Sample33	Near Main Gate Area	29.01.2024	OCPL/NL/EMIL/33/01/24
34.	Sample34	Near Back Gate Area	29.01.2024	OCPL/NL/EMIL/34/01/24
35.	Sample35	Near Pellet Plant Area	29.01.2024	OCPL/NL/EMIL/35/01/24
36.	Sample36	Near IOBP Area	29.01.2024	OCPL/NL/EMIL/36/01/24

Date of Monitoring: 01.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.2	66	52.9	48.2	30.7
2	Near Back Gate Area	41.8	45.2	37.2	35	31.5
3	Near Pellet Plant Area	64.6	65.8	68.5	62.2	24.8
4	Near IOBP Area	55.4	58	38.9	46.5	34.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:05.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	54.3	62.3	55.6	61.2	36
2	Near Back Gate Area	38.3	50.4	48.5	44.2	28
3	Near Pellet Plant Area	55.6	54	46	50.6	34.4
4	Near IOBP Area	57.5	56.2	42.5	45.2	28.6
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:08.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	62.22	61.68	62.75	55.23	38.69
2	Near Back Gate Area	47.17	52.58	42.72	38.64	38.95
3	Near Pellet Plant Area	51.65	59.42	62.74	42.95	35.09
4	Near IOBP Area	56.08	53.24	42.59	45.61	37.35
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:12.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00- 11.00am	Day 3.00- 4.00pm	Evening6.00 -7.00pm	Night 10.00- 11.00pm
1	Near Main Gate Area	62.49	61.33	62.99	54.94	38.65
2	Near Back Gate Area	47.37	53.05	42.61	38.54	39.04
3	Near Pellet Plant Area	51.74	59.90	62.51	42.61	35.09
4	Near IOBP Area	56.02	53.12	42.59	46.08	37.16
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:15.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	62.52	61.60	63.16	55.03	38.82
2	Near Back Gate Area	47.08	53.05	42.89	38.64	38.80
3	Near Pellet Plant Area	51.40	59.30	62.61	42.74	35.53
4	Near IOBP Area	55.93	53.52	41.95	45.47	36.88
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:19.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	62.21	61.41	62.96	55.08	38.56
2	Near Back Gate Area	47.20	52.84	42.88	38.89	39.11
3	Near Pellet Plant Area	51.32	59.30	63.10	43.09	35.42
4	Near IOBP Area	55.62	53.62	42.05	46.06	36.92
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:22.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	62.40	61.64	62.86	55.30	38.85
2	Near Back Gate Area	46.75	52.88	43.18	38.75	38.84
3	Near Pellet Plant Area	51.53	59.57	63.03	43.11	35.55
4	Near IOBP Area	55.87	53.37	42.09	45.74	37.16
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:26.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	59.74	66.28	53.20	39.10	33.43
2	Near Back Gate Area	47.50	65.75	55.52	45.21	33.20
3	Near Pellet Plant Area	57.37	63.18	58.69	43.09	29.39
4	Near IOBP Area	46.49	37.67	35.93	37.20	31.34
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:29.01.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	59.18	66.58	53.36	38.65	33.39
2	Near Back Gate Area	47.32	66.10	55.91	45.03	33.07
3	Near Pellet Plant Area	57.02	63.51	58.88	42.88	29.77
4	Near IOBP Area	46.56	37.86	36.08	37.09	31.61
5	**Ambient Noise Standard**	**Day Time (in dB(A))Leq**			**Night Time (in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF JANUARY-2024

SURFACE WATER ANALYSIS FOR THE MONTH OF JANUARY 2024
SUMMARY SHEET OF SAMPLING(SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	10- JANUARY-2024	OCPL/SW/01/01/24
2.	Sample02	BAITARANI RIVE (NEARPLANTAREA)	10- JANUARY-2024	OCPL/SW/02/01/24
3.	Sample03	RESERVOUR POND INSIDEPLANT	10- JANUARY-2024	OCPL/SW/03/01/24
4.	Sample04	DALKI NALA NEAR PLANT	10- JANUARY-2024	OCPL/SW/04/01/24
5.	Sample05	NADIGUTH	10- JANUARY-2024	OCPL/SW/05/01/24

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/01/24		**Report No.-OCPL/EMIL/01/01/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- JANUARY-2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- JANUARY-2024
Sample type	Surface Water	Date of Analysis	11- JANUARY-2024
Required parameters	As described in W/O	Date of Issue of report	18- JANUARY-2024
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	37.8
4	pH	-	7.1
5	Total Suspended Solids	mg/L	8.5
6	Total Dissolved Solid	mg/L	459
7	BiochemicalOxygenDemand at27°C	mg/L	7.6
8	Chemical Oxygen Demand	mg/L	7.1
9	Total Residual Chlorine	mg/L	6.9
10	Alkalinity	mg/L	135
11	Calcium	mg/L	36.6
12	Magnesium	mg/L	26

13	Total Hardness as CaCO3	mg/L	64
14	Electrical Conductivity	µs/cm	188
15	Turbidity	NTU	7.1
16	Arsenic as As	µg/L	1.4
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	3.88
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	8.04
21	Fluoride as F	mg/L	0.22
22	Iron as Fe	mg/L	18.9
23	Nitrate	mg/L	7.5
24	Sodium as Na	mg/L	6.2
25	Potassium as K	mg/L	1.2
26	Sulfate	mg/L	0.48
27	Nitrate as NO3	mg/L	4.7
28	Total Silica as SiO2	mg/L	11.48
29	Total dissolved Solid	mg/L	485

Location: BAITARANI RIVER (NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/01/24		**Report No.-OCPL/EMIL/02/01/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (NEARPLANTAREA)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- JANUARY-2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- JANUARY-2024
Sample type	Surface Water	Date of Analysis	11- JANUARY-2024
Required parameters	As described in W/O	Date of Issue of report	18- JANUARY-2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	28.9
4	pH	-	7.2
5	Total Suspended Solids	mg/L	9.2
6	Total Dissolved Solid	mg/L	485
7	BiochemicalOxygenDemand at27°C	mg/L	6.5
8	Chemical Oxygen Demand	mg/L	5.1
9	Total Residual Chlorine	mg/L	3.06
10	Alkalinity	mg/L	63.1
11	Calcium	mg/L	10.2
12	Magnesium	mg/L	7.84

13	Total Hardness asCaCO3	mg/L	39.6
14	Electrical Conductivity	µs/cm	179
15	Turbidity	NTU	12.8
16	Arsenic as As	µg/L	0.52
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	4.4
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	18.4
21	Fluoride as F	mg/L	0.43
22	Iron as Fe	mg/L	24.2
23	Nitrate	mg/L	3.08
24	Sodium as Na	mg/L	1.66
25	Potassium as K	mg/L	2.32
26	Sulfate	mg/L	<0.01
27	Nitrate as NO_3	mg/L	3.2
28	Total Silica as SiO_2	mg/L	1.64
29	Total dissolved Solid	mg/L	455

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/01/24		**Report No.-OCPL/EMIL/03/01/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR PONDINSIDEPLANT PREMISES**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- JANUARY-2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- JANUARY-2024
Sample type	Surface Water	Date of Analysis	11- JANUARY-2024
Required parameters	As described in W/O	Date of Issue of report	18- JANUARY-2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.2
2	Odour	-	Agreeable
3	Temperature	°C	26.6
4	pH	-	7.1
5	Total Suspended Solids	mg/L	36.2
6	Total Dissolved Solid	mg/L	568
7	Biochemical Oxygen Demand at 27°C	mg/L	31.8
8	Chemical Oxygen Demand	mg/L	14.2
9	Total Residual Chlorine	mg/L	11.4
10	Alkalinity	mg/L	166
11	Calcium	mg/L	42

12	Magnesium	mg/L	29.6
13	Total Hardness as CaCO3	mg/L	164.8
14	Electrical Conductivity	µs/cm	284
15	Turbidity	NTU	31.4
16	Arsenic as As	µg/L	3.88
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	16.2
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	1.44
22	Iron as Fe	mg/L	32
23	Nitrate	mg/L	4.18
24	Sodium as Na	mg/L	9.2
25	Potassium as K	mg/L	2.8
26	Sulfate	mg/L	8.6
27	Nitrate as NO_3	mg/L	7.1
28	Total Silica as SiO_2	mg/L	8.5
29	Total dissolved Solid	mg/L	685

Location: DALKINALA, NEAR PLANT

Lab Sample Code: OCPL/SW/04/01/24		**Report No.-OCPL/EMIL/04/01/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**DALKI NALA, NEARPLANT**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- JANUARY-2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- JANUARY-2024
Sample type	Surface Water	Date of Analysis	11- JANUARY-2024
Required parameters	As described in W/O	Date of Issue of report	18- JANUARY-2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	27.8
4	pH	-	6.9
5	Total Suspended Solids	mg/L	17.2
6	Total Dissolved Solid	mg/L	698
7	BiochemicalOxygenDemand at27°C	mg/L	12
8	Chemical Oxygen Demand	mg/L	6.1
9	Total Residual Chlorine	mg/L	2.44
10	Alkalinity	mg/L	165
11	Calcium	mg/L	46
12	Magnesium	mg/L	21.4
13	Total Hardness as CaCO3	mg/L	86

14	Electrical Conductivity	µs/cm	226
15	Turbidity	NTU	24
16	Arsenic as As	µg/L	0.36
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.48
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	11.2
21	Fluoride as F	mg/L	0.52
22	Iron as Fe	mg/L	25.6
23	Nitrate	mg/L	7.45
24	Sodium as Na	mg/L	6.62
25	Potassium as K	mg/L	4.6
26	Sulfate	mg/L	3.4
27	Nitrate as NO_3	mg/L	8.2
28	Total Silica as SiO_2	mg/L	6.4
29	Total dissolved Solid	mg/L	599

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/01/24		**Report No.-OCPL/EMIL/05/01/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- JANUARY-2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- JANUARY-2024
Sample type	Surface Water	Date of Analysis	11- JANUARY-2024
Required parameters	As described in W/O	Date of Issue of report	18- JANUARY-2024
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	25.4
4	pH	-	7.1
5	Total Suspended Solids	mg/L	15.1
6	Total Dissolved Solid	mg/L	685
7	BiochemicalOxygenDemand at27°C	mg/L	12.85
8	Chemical Oxygen Demand	mg/L	5.6
9	Total Residual Chlorine	mg/L	5.6
10	Alkalinity	mg/L	72.4
11	Calcium	mg/L	9.2
12	Magnesium	mg/L	7.3
13	Total Hardness as $CaCO_3$	mg/L	42

14	Electrical Conductivity	µs/cm	92
15	Turbidity	NTU	14.8
16	Arsenic as As	µg/L	<0.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.64
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	0.44
22	Iron as Fe	mg/L	28
23	Nitrate	mg/L	4.43
24	Sodium as Na	mg/L	6.24
25	Potassium as K	mg/L	3.0
26	Sulfate	mg/L	8.7
27	Nitrate as NO_3	mg/L	4
28	Total Silica as SiO_2	mg/L	4.86
29	Total dissolved Solid	mg/L	699

GROUND WATER ANALYSIS REPORT FOR THE MONTH OF JANUARY -2024

GROUND WATER MONITORING REPORT SUMMARY SHEET OF SAMPLING (GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	11- JANUARY - 2024	OCPL/GW/01/01/24
2.	Sample02	NEDIGUTH	11- JANUARY - 2024	OCPL/GW/02/01/24
3.	Sample03	TALASAHI	11- JANUARY - 2024	OCPL/GW/03/01/24
4.	Sample04	PLANT-1(Near Canteen)	11- JANUARY - 2024	OCPL/GW/04/01/24
5.	Sample05	PLANT-2(SLIMEPOND)	11- JANUARY - 2024	OCPL/GW/05/01/24

ANALYSIS RESULT (With drinking water specifications, BIS (As per 10500- 2012BIS)

Sl. No.	TESTPARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	1.1	1.0	1.1	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	28	27.8	28	28.6	27		
4	pH	-	6.8	7.1	7	6.9	7.2	6.5-8.5	No relaxation
5	Total Hardness (as $CaCO_3$)	mg/L	56.12	55	48	58.23	62.6	300	600
6	Calcium	mg/L	8	7	11	12.2	14.8	75	200
7	Magnesium	mg/L	1.4	2	4	2.8	1.6	30	No relaxation
8	Chloride	mg/L	16.6	15.5	11.8	14	20	250	1000
9	Alkalinity	mg/L	18	14	22	16.4	22	200	600
10	Electrical Conductivity	µs/cm	67	51	68	76	88	--	--
11	Arsenic as As	µg/L	0.06	ND	0.02	ND	0.12	10	No relaxation
12	Lead as Pb	µg/L	ND	0.31	0.2	0.04	ND	10	No relaxation
13	Cadmium as Cd	µg/L	ND	ND	ND	0.02	0.04	3.0	No relaxation
14	Total Chromium as Cr	µg/L	0.2	ND	0.2	0.08	0.04	50	No relaxation

15	Zinc as Zn	µg/L	87	94.8	88.5	68	102	5000	No relaxation
16	Fluoride as F	mg/L	ND	0.02	ND	0.02	ND	1.0	1.9
17	Iron as Fe	µg/L	18.5	14.2	32	48.6	35	300	1000
18	Nitrate	mg/L	1.5	1.2	1.0	1.02	1.2	45	100
19	Sodium as Na	mg/L	2.2	3.6	4.0	5.2	5.8	150	No relaxation
20	Potassium as K	mg/L	ND	0.04	0.12	0.1	0.2	12	No relaxation
21	Sulfate	mg/L	ND	ND	0.05	0.02	0.4	200	400
22	Total Silica as SiO_2	mg/L	0.5	ND	0.66	ND	1.04	--	--
23	Total suspended Solid	mg/L	0.08	1.06	1.1	0.26	1.2	--	--
24	Total dissolved Solid	mg/L	85	72.4	75	94	79.4	250	2000
25	Turbidity	NTU	0.2	0.47	0.42	0.8	0.66	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORT FOR THE MONTH OF JANUARY - 2024

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF JANUARY -2024

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	14- JANUARY - 2024	OCPL/GWL/01/01/24
7.	Sample02	NEDIGUTH	14- JANUARY - 2024	OCPL/GWL/02/01/24
8.	Sample03	TALASAHI	14- JANUARY - 2024	OCPL/GWL/03/01/24
9.	Sample04	PLANT-1(Near Canteen)	14- JANUARY - 2024	OCPL/GWL/04/01/24
10.	Sample05	PLANT-2(SLIMEPOND)	14- JANUARY - 2024	OCPL/GWL/05/01/24

MONITORINGRESULT

Sl No.	Nameofthelocation	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dug well	0.83	8.12	7.7	--
2	NEDIGUTH	Dug well	1.22	9.44	7.2	--
3	TALASAHI	Dug well	1.0	8.6	7.19	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	65	12.2	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	61	37.8	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORTFOR THE MONTH OF JANUARY - 2024

REPORT ON STACK MONITORING FOR THE MONTH OF JANUARY - 2024

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1			✓				
DGStack-2			✓				
Stack-1(Pellet Plant Process Stack)				✓			
Stack-2(Pellet Plant Dedusting Stack)				✓			

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/38
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**09.01.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/01
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 09.01.2024

ANALYSISRESULT

A.	**General information about stack:**	
1.	Stack connected to	: DG-1
2.	Emission due to	: Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	: Circular
5.	Serial no.	: N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		: HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2. Fuel Consumption: NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^oC)	77.7	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	285	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	12.52	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	665	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.31	--	IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	20.42	--	IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	6.6	--	IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	115.3	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	72.52	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	38.4	50	IS11255(PartI):1985, RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/39
M/SESSELMINING&INDUSTRIESLTD	**Date** :09.01.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/13
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :09.01.2024

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(°C)	85.3		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	322		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	31.22		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1638		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.63		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	26.8		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	12		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	155	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	77.5	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	35.4	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	10.01.2024
Stack-2	Pellet plant de-dusting stack	Electricity	10.01.2024

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(°C)	Velocity NM^3/Hr
1	Pellet plant process stack	80	7145	97.5	35665
2	Pellet plant de-dusting stack	60	6568	92.4	36497

Stack No.	Stack Description	Carbon monoxide**(CO)** Mg/nm^3	Carbon dioxide**(CO2)** %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.4	142	123.2	180.4	77.3
2	Pellet plant de-dusting stack	<0.2	7.84	125.5	137.2	178.8	65.32

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF FEBRUARY-2024 FOR ESSELMINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA,KEONJHAR

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AMBIENT AIR MONITORING REPORT FOR THE MONTH OF FEBRUARY -2024

AMBIENT AIR QUALITY MONITORING DATA

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near ECR-1		✓				✓	
Near Canteen		✓				✓	
Near Admin Building		✓				✓	
Nadiguth Village			✓				✓

SUMMARY SHEET OF SAMPLING

Sl. No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near ECR-1	02.02.2024	OCPL/AAQ/EMIL/01/02/24
2.	Sample02	Near Canteen	02.02.2024	OCPL/AAQ/EMIL/02/02/24
3.	Sample03	Near Admin Building	02.02.2024	OCPL/AAQ/EMIL/03/02/24
4.	Sample04	Nedigutha Village	03.02.2024	OCPL/AAQ/EMIL/04/02/24
5.	Sample05	NearECR-1	05.02.2024	OCPL/AAQ/EMIL/05/02/24
6.	Sample06	Near Canteen	05.02.2024	OCPL/AAQ/EMIL/06/02/24
7.	Sample07	Near Admin Building	05.02.2024	OCPL/AAQ/EMIL/07/02/24
8.	Sample08	Nedigutha Village	06.02.2024	OCPL/AAQ/EMIL/08/02/24
9.	Sample09	NearECR-1	09.02.2024	OCPL/AAQ/EMIL/09/02/24
10.	Sample10	Near Canteen	09.02.2024	OCPL/AAQ/EMIL/10/02/24
11.	Sample11	Near Admin Building	09.02.2024	OCPL/AAQ/EMIL/11/02/24
12.	Sample12	Nedigutha Village	10.02.2024	OCPL/AAQ/EMIL/12/02/24
13.	Sample13	NearECR-1	12.02.2024	OCPL/AAQ/EMIL/13/02/24
14.	Sample14	Near Canteen	12.02.2024	OCPL/AAQ/EMIL/14/02/24
15.	Sample15	Near Admin Building	12.02.2024	OCPL/AAQ/EMIL/15/02/24
16.	Sample16	Nedigutha Village	13.02.2024	OCPL/AAQ/EMIL/16/02/24

17.	Sample17	NearECR-1	16.02.2024	OCPL/AAQ/EMIL/17/02/24
18.	Sample18	Near Canteen	16.02.2024	OCPL/AAQ/EMIL/18/02/24
19.	Sample19	Near Admin Building	16.02.2024	OCPL/AAQ/EMIL/19/02/24
20.	Sample20	Nedigutha Village	17.02.2024	OCPL/AAQ/EMIL/20/02/24
21.	Sample21	NearECR-1	19.02.2024	OCPL/AAQ/EMIL/21/02/24
22.	Sample22	Near Canteen	19.02.2024	OCPL/AAQ/EMIL/22/02/24
23.	Sample23	Near Admin Building	19.02.2024	OCPL/AAQ/EMIL/23/02/24
24.	Sample24	Nedigutha Village	20.02.2024	OCPL/AAQ/EMIL/24/02/24
25.	Sample25	NearECR-1	23.02.2024	OCPL/AAQ/EMIL/25/02/24
26.	Sample26	Near Canteen	23.02.2024	OCPL/AAQ/EMIL/26/02/24
27.	Sample27	Near Admin Building	23.02.2024	OCPL/AAQ/EMIL/27/02/24
28.	Sample28	Nedigutha Village	24.02.2024	OCPL/AAQ/EMIL/28/02/24
29.	Sample29	NearECR-1	26.02.2024	OCPL/AAQ/EMIL/29/02/24
30.	Sample30	Near Canteen	26.02.2024	OCPL/AAQ/EMIL/30/02/24
31.	Sample31	Near Admin Building	26.02.2024	OCPL/AAQ/EMIL/31/02/24
32.	Sample32	Nedigutha Village	27.02.2024	OCPL/AAQ/EMIL/32/02/24

LOCATION: NEAR ECR-1

Parameters	Limit (µg/M3)	Date								
		02.02.24	05.02.24	09.02.24	12.02.24	16.02.24	19.02.24	23.02.24	26.02.24	Avg
PM10	100	87.90	88.10	86.73	90.25	87.70	92.32	93.04	90.25	89.54
PM2.5	60	58.90	59.00	55.94	59.53	57.45	59.30	59.00	56.61	58.22
Sulphur Dioxide (SO2)	80	37.26	36.27	37.03	40.21	39.38	38.45	40.42	36.50	38.19
Oxide of Nitrogen (NO2)	80	29.17	30.08	30.61	38.33	32.91	33.78	32.44	33.50	32.60
Lead (Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	173.90	174.10	176.00	172.58	172.98	178.56	178.82	177.92	175.61
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	37.68	37.87	39.88	40.05	38.81	37.87	38.40	37.62	38.52
Benzene (C6 H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5, SO2, NO2, &CO has been done aspertheISCodeIS:5182 PartIV, II, VI, X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	Limit (µg/M3)	Date								
		02.02.24	05.02.24	09.02.24	12.02.24	16.02.24	19.02.24	23.02.24	26.02.24	Avg
PM10	100	88.83	88.86	87.79	90.78	88.73	93.25	93.76	91.38	90.42
PM2.5	60	59.80	58.30	56.93	59.00	58.19	58.95	59.95	57.80	58.62
Sulphur Dioxide (SO2)	80	37.78	37.40	37.60	40.72	39.88	39.41	40.94	37.14	38.86
Oxide of Nitrogen (NO2)	80	29.83	30.92	31.21	39.29	33.79	34.59	33.14	34.44	33.40
Lead (Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	174.73	174.84	176.80	173.65	174.03	179.17	179.55	178.76	176.44
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	38.19	38.39	40.39	40.84	39.63	38.64	39.31	38.36	39.22
Benzene (C6 H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5, SO2, NO2, &CO has been done as per the IS Code IS:5182 PartIV, II, VI, X&XVII respectively

LOCATION: NEAR ADMIN. BUILDING

Parameters	Limit (µg/M3)	Date								
		02.02.24	05.02.24	09.02.24	12.02.24	16.02.24	19.02.24	23.02.24	26.02.24	Avg
PM10	100	86.05	89.07	87.88	91.10	88.45	93.39	94.15	91.20	90.16
PM2.5	60	59.76	58.30	56.68	59.00	57.97	58.95	58.00	57.39	58.26
Sulphur Dioxide (SO2)	80	38.24	36.77	37.57	40.82	40.06	39.05	41.17	37.03	38.84
Oxide of Nitrogen (NO2)	80	30.29	31.15	31.33	39.20	33.95	34.85	33.33	34.49	33.57
Lead (Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	175.09	174.93	176.75	173.57	173.97	179.57	179.80	178.69	176.55
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	38.68	38.51	40.44	40.75	39.34	38.96	39.02	38.70	39.30
Benzene (C6 H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM10&PM2.5, SO2,NO2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE								
		03.02.24	06.02.24	10.02.24	13.02.24	17.02.24	20.02.24	24.02.24	27.02.24	Avg
PM10	100	43.74	46.29	47.38	48.41	47.81	47.32	46.09	45.24	46.54
PM2.5	60	44.05	45.91	44.93	46.34	44.66	44.02	44.43	44.66	44.88
Sulphur Dioxide (SO2)	80	20.00	17.85	21.76	22.02	23.45	19.53	19.97	18.90	20.44
Oxide of Nitrogen (NO2)	80	18.69	18.38	20.08	19.94	19.21	19.19	18.38	19.42	19.16
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	147.74	148.60	145.64	145.11	146.37	148.28	141.69	144.33	145.97
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH3)	400	14.15	13.93	15.55	16.04	16.59	17.89	13.63	14.31	15.26
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM10& PM2.5, SO2, NO2, &CO has been done as per the IS Code IS: 5182 PartIV,II,VI,X&XVII respectively

NOISE LEVEL MONITORING REPORT FOR THE MONTH OF FEBRUARY -2024

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF FEBRUARY

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area		✓				✓	
Near Back Gate Area		✓				✓	
Near Pellet Plant Area		✓				✓	
Near IOBP Area		✓				✓	

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	02.02.2024	OCPL/NL/EMIL/01/02/24
2.	Sample02	Near Back Gate Area	02.02.2024	OCPL/NL/EMIL/02/02/24
3.	Sample03	Near Pellet Plant Area	02.02.2024	OCPL/NL/EMIL/03/02/24
4.	Sample04	Near IOBP Area	02.02.2024	OCPL/NL/EMIL/04/02/24
5.	Sample05	Near Main Gate Area	05.02.2024	OCPL/NL/EMIL/05/02/24
6.	Sample06	Near Back Gate Area	05.02.2024	OCPL/NL/EMIL/06/02/24
7.	Sample07	Near Pellet Plant Area	05.02.2024	OCPL/NL/EMIL/07/02/24
8.	Sample08	Near IOBP Area	05.02.2024	OCPL/NL/EMIL/08/02/24
9.	Sample09	Near Main Gate Area	09.02.2024	OCPL/NL/EMIL/09/02/24
10.	Sample10	Near Back Gate Area	09.02.2024	OCPL/NL/EMIL/10/02/24
11.	Sample11	Near Pellet Plant Area	09.02.2024	OCPL/NL/EMIL/11/02/24
12.	Sample12	Near IOBP Area	09.02.2024	OCPL/NL/EMIL/12/02/24
13.	Sample13	Near Main Gate Area	12.02.2024	OCPL/NL/EMIL/13/02/24
14.	Sample14	Near Back Gate Area	12.02.2024	OCPL/NL/EMIL/14/02/24
15.	Sample15	Near Pellet Plant Area	12.02.2024	OCPL/NL/EMIL/15/02/24
16.	Sample16	Near IOBP Area	12.02.2024	OCPL/NL/EMIL/16/02/24

17.	Sample17	Near Main Gate Area	16.02.2024	OCPL/NL/EMIL/17/02/24
18.	Sample18	Near Back Gate Area	16.02.2024	OCPL/NL/EMIL/18/02/24
19.	Sample19	Near Pellet Plant Area	16.02.2024	OCPL/NL/EMIL/19/02/24
20.	Sample20	Near IOBP Area	16.02.2024	OCPL/NL/EMIL/20/02/24
21.	Sample21	Near Main Gate Area	19.02.2024	OCPL/NL/EMIL/21/02/24
22.	Sample22	Near Back Gate Area	19.02.2024	OCPL/NL/EMIL/22/02/24
23.	Sample23	Near Pellet Plant Area	19.02.2024	OCPL/NL/EMIL/23/02/24
24.	Sample24	Near IOBP Area	19.02.2024	OCPL/NL/EMIL/24/02/24
25.	Sample25	Near Main Gate Area	23.02.2024	OCPL/NL/EMIL/25/02/24
26.	Sample26	Near Back Gate Area	23.02.2024	OCPL/NL/EMIL/26/02/24
27.	Sample27	Near Pellet Plant Area	23.02.2024	OCPL/NL/EMIL/27/02/24
28.	Sample28	Near IOBP Area	23.02.2024	OCPL/NL/EMIL/28/02/24
29.	Sample29	Near Main Gate Area	26.02.2024	OCPL/NL/EMIL/29/02/24
30.	Sample30	Near Back Gate Area	26.02.2024	OCPL/NL/EMIL/30/02/24
31.	Sample31	Near Pellet Plant Area	26.02.2024	OCPL/NL/EMIL/31/02/24
32.	Sample32	Near IOBP Area	26.02.2024	OCPL/NL/EMIL/32/02/24

Date of Monitoring: 02.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	64.34	66.93	53.91	49.17	31.21
2	Near Back Gate Area	42.59	45.77	37.87	35.91	32.07
3	Near Pellet Plant Area	65.25	66.91	69.64	63.37	25.80
4	Near IOBP Area	56.36	58.67	39.55	47.46	35.77
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:05.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	54.83	63.06	56.61	62.31	37.12
2	Near Back Gate Area	39.03	51.18	49.70	45.34	28.51
3	Near Pellet Plant Area	56.75	55.16	46.70	51.77	35.28
4	Near IOBP Area	58.65	57.15	43.02	46.12	29.31
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:09.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.20	62.72	63.46	56.39	39.75
2	Near Back Gate Area	48.28	53.26	43.70	39.62	39.68
3	Near Pellet Plant Area	52.56	60.57	63.74	43.99	36.16
4	Near IOBP Area	56.59	54.06	43.47	46.32	38.05
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:12.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.14	62.30	63.99	56.10	39.52
2	Near Back Gate Area	48.20	54.03	43.53	39.10	39.63
3	Near Pellet Plant Area	52.72	60.83	63.49	43.14	35.68
4	Near IOBP Area	57.13	53.65	43.26	46.98	38.01
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:16.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.54	62.31	64.19	55.79	39.45
2	Near Back Gate Area	47.96	54.08	43.98	39.41	39.72
3	Near Pellet Plant Area	52.28	60.20	63.34	43.48	36.47
4	Near IOBP Area	56.94	54.65	43.08	46.21	37.71
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:19.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	62.90	62.00	64.10	55.86	39.64
2	Near Back Gate Area	47.98	53.74	43.89	40.09	40.05
3	Near Pellet Plant Area	52.36	60.28	64.24	43.87	35.96
4	Near IOBP Area	56.43	54.48	42.76	46.64	37.76
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:23.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	63.11	62.17	63.56	56.11	39.60
2	Near Back Gate Area	47.70	53.75	44.09	39.68	39.36
3	Near Pellet Plant Area	52.54	60.29	63.96	43.74	36.21
4	Near IOBP Area	56.91	54.57	43.21	46.62	38.15
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:26.02.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	60.26	67.00	54.05	39.68	34.50
2	Near Back Gate Area	48.58	66.73	56.04	46.30	34.09
3	Near Pellet Plant Area	58.46	64.11	59.48	43.64	29.97
4	Near IOBP Area	47.45	38.65	36.70	38.27	32.12
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF FEBRUARY-2024

SURFACE WATER ANALYSIS FOR THE MONTH OF FEBRUARY 2024
SUMMARY SHEET OF SAMPLING (SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	10- FEBRUARY - 2024	OCPL/SW/01/02/24
2.	Sample02	BAITARANI RIVER (NEARPLANTAREA)	10- FEBRUARY - 2024	OCPL/SW/02/02/24
3.	Sample03	RESERVOUR POND INSIDEPLANT	10- FEBRUARY - 2024	OCPL/SW/03/02/24
4.	Sample04	DALKI NALA NEAR PLANT	10- FEBRUARY - 2024	OCPL/SW/04/02/24
5.	Sample05	NADIGUTH	10- FEBRUARY - 2024	OCPL/SW/05/02/24

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/02/24		**Report No.-OCPL/EMIL/01/02/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- FEBRUARY - 2024
Sample quantity	1no.s X 1Lit.	Date of sample received	11- FEBRUARY - 2024
Sample type	Surface Water	Date of Analysis	11- FEBRUARY - 2024
Required parameters	As described in W/O	Date of Issue of report	18- FEBRUARY - 2024
EMIL reference	WO No.- 1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	36.8
4	pH	-	7.1
5	Total Suspended Solids	mg/L	8.4
6	Total Dissolved Solid	mg/L	453
7	BiochemicalOxygenDemand at27°C	mg/L	7.7
8	Chemical Oxygen Demand	mg/L	7.2
9	Total Residual Chlorine	mg/L	6.9
10	Alkalinity	mg/L	142
11	Calcium	mg/L	36.7
12	Magnesium	mg/L	29.7

13	Total Hardness as CaCO3	mg/L	64
14	Electrical Conductivity	µs/cm	185
15	Turbidity	NTU	7.1
16	Arsenic as As	µg/L	1.4
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	3.87
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	8.0
21	Fluoride as F	mg/L	0.225
22	Iron as Fe	mg/L	18.6
23	Nitrate	mg/L	7.1
24	Sodium as Na	mg/L	6.23
25	Potassium as K	mg/L	1.23
26	Sulfate	mg/L	0.485
27	Nitrate as NO3	mg/L	4.8
28	Total Silica as SiO2	mg/L	11.64
29	Total dissolved Solid	mg/L	487

Location: BAITARANI RIVER (NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/02/24		**Report No.-OCPL/EMIL/02/02/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANI RIVER (NEAR PLANT AREA)**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- FEBRUARY - 2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- FEBRUARY - 2024
Sample type	Surface Water	Date of Analysis	11- FEBRUARY - 2024
Required parameters	As described in W/O	Date of Issue of report	18- FEBRUARY - 2024
EMIL reference	WONo.- 1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	29.5
4	pH	-	7.1
5	Total Suspended Solids	mg/L	9.2
6	Total Dissolved Solid	mg/L	498
7	BiochemicalOxygenDemand at27°C	mg/L	6.4
8	Chemical Oxygen Demand	mg/L	5.3
9	Total Residual Chlorine	mg/L	3.12
10	Alkalinity	mg/L	65.1
11	Calcium	mg/L	10.23
12	Magnesium	mg/L	7.7

13	Total Hardness asCaCO3	mg/L	45.6
14	Electrical Conductivity	µs/cm	185
15	Turbidity	NTU	12.85
16	Arsenic as As	µg/L	0.51
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	4.7
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	18.45
21	Fluoride as F	mg/L	0.43
22	Iron as Fe	mg/L	26.2
23	Nitrate	mg/L	3.1
24	Sodium as Na	mg/L	1.68
25	Potassium as K	mg/L	2.33
26	Sulfate	mg/L	<0.01
27	Nitrate as NO3	mg/L	3.1
28	Total Silica as SiO2	mg/L	1.65
29	Total dissolved Solid	mg/L	496

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/02/24		**Report No.-OCPL/EMIL/03/02/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR POND INSIDE PLANT PREMISES**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- FEBRUARY - 2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- FEBRUARY - 2024
Sample type	Surface Water	Date of Analysis	11- FEBRUARY - 2024
Required parameters	As described in W/O	Date of Issue of report	18- FEBRUARY - 2024
EMIL reference	WONo.- 1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.1
2	Odour	-	Agreeable
3	Temperature	°C	28.6
4	pH	-	7.2
5	Total Suspended Solids	mg/L	39.2
6	Total Dissolved Solid	mg/L	569
7	Biochemical Oxygen Demand at 27°C	mg/L	35.8
8	Chemical Oxygen Demand	mg/L	15.2
9	Total Residual Chlorine	mg/L	12.4
10	Alkalinity	mg/L	169
11	Calcium	mg/L	45
12	Magnesium	mg/L	28.6

13	Total Hardness as CaCO3	mg/L	165.5
14	Electrical Conductivity	µs/cm	268
15	Turbidity	NTU	32.3
16	Arsenic as As	µg/L	3.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	16.1
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	1.45
22	Iron as Fe	mg/L	35.2
23	Nitrate	mg/L	4.1
24	Sodium as Na	mg/L	9.5
25	Potassium as K	mg/L	2.83
26	Sulfate	mg/L	5.6
27	Nitrate as NO3	mg/L	7.3
28	Total Silica as SiO2	mg/L	8.5
29	Total dissolved Solid	mg/L	597

Location: DALKINALA, NEAR PLANT

Lab Sample Code: OCPL/SW/04/02/24		**Report No.-OCPL/EMIL/04/02/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**DALKI NALA, NEARPLANT**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- FEBRUARY - 2024
Sample quantity	1no.sX1Lit.	Date of sample received	11- FEBRUARY - 2024
Sample type	Surface Water	Date of Analysis	11- FEBRUARY - 2024
Required parameters	As described in W/O	Date of Issue of report	18- FEBRUARY - 2024
EMIL reference	WONo.- 1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	27.8
4	pH	-	7.1
5	Total Suspended Solids	mg/L	19.2
6	Total Dissolved Solid	mg/L	659
7	BiochemicalOxygenDemand at27°C	mg/L	15.3
8	Chemical Oxygen Demand	mg/L	6.2
9	Total Residual Chlorine	mg/L	2.5
10	Alkalinity	mg/L	166
11	Calcium	mg/L	49
12	Magnesium	mg/L	21.2
13	Total Hardness as CaCO3	mg/L	88.5

14	Electrical Conductivity	µs/cm	258
15	Turbidity	NTU	25
16	Arsenic as As	µg/L	0.36
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.48
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	17.2
21	Fluoride as F	mg/L	0.52
22	Iron as Fe	mg/L	29.6
23	Nitrate	mg/L	7.2
24	Sodium as Na	mg/L	6.6
25	Potassium as K	mg/L	4.5
26	Sulfate	mg/L	3.3
27	Nitrate as NO_3	mg/L	8.22
28	Total Silica as SiO_2	mg/L	6.5
29	Total dissolved Solid	mg/L	632

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/02/24		Report No.-OCPL/EMIL/05/02/24	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Samplecollectedby	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	10- FEBRUARY - 2024
Sample quantity	1no.s X 1Lit.	Date of sample received	11- FEBRUARY - 2024
Sample type	Surface Water	Date of Analysis	11- FEBRUARY - 2024
Required parameters	As described in W/O	Date of Issue of report	18- FEBRUARY - 2024
EMIL reference	WO No.- 1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	TESTPARAMETER	UOM	Results
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	29.4
4	pH	-	7.1
5	Total Suspended Solids	mg/L	14.1
6	Total Dissolved Solid	mg/L	689
7	BiochemicalOxygenDemand at27°C	mg/L	12.8
8	Chemical Oxygen Demand	mg/L	5.6
9	Total Residual Chlorine	mg/L	6.2
10	Alkalinity	mg/L	65.4
11	Calcium	mg/L	9.1
12	Magnesium	mg/L	7.1
13	Total Hardness as CaCO3	mg/L	45

14	Electrical Conductivity	µs/cm	95.2
15	Turbidity	NTU	16.8
16	Arsenic as As	µg/L	<0.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.64
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	0.44
22	Iron as Fe	mg/L	26
23	Nitrate	mg/L	4.43
24	Sodium as Na	mg/L	6.24
25	Potassium as K	mg/L	3.4
26	Sulfate	mg/L	8.1
27	Nitrate as NO_3	mg/L	4.2
28	Total Silica as SiO_2	mg/L	4.8
29	Total dissolved Solid	mg/L	594

GROUND WATER ANALYSIS REPORT FOR THE MONTH OF FEBRUARY -2024

GROUND WATER MONITORING REPORT SUMMARY SHEET OF SAMPLING (GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	11- FEBRUARY - 2024	OCPL/GW/01/02/24
2.	Sample02	NEDIGUTH	11- FEBRUARY - 2024	OCPL/GW/02/02/24
3.	Sample03	TALASAHI	11- FEBRUARY - 2024	OCPL/GW/03/02/24
4.	Sample04	PLANT-1(Near Canteen)	11- FEBRUARY - 2024	OCPL/GW/04/02/24
5.	Sample05	PLANT-2(SLIMEPOND)	11- FEBRUARY - 2024	OCPL/GW/05/02/24

ANALYSIS RESULT (With drinking water specifications, BIS (As per 10500- 2012BIS)

Sl. No.	TESTPARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	1.0	1.1	1.2	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	28.3	29.8	28	27.6	28.3		
4	pH	-	6.8	7.0	7.2	6.9	7.1	6.5-8.5	No relaxation
5	Total Hardness (as $CaCO_3$)	mg/L	63.1	58.3	52.3	58.2	48.6	300	600
6	Calcium	mg/L	8.9	8.2	10.6	12.1	10.8	75	200
7	Magnesium	mg/L	1.1	3.2	4.8	3.8	1.9	30	No relaxation
8	Chloride	mg/L	15.6	15.5	14.8	11.2	23.3	250	1000
9	Alkalinity	mg/L	19.3	14.1	22	11.4	20.3	200	600
10	Electrical Conductivity	µs/cm	55	59.3	62.3	69.3	78.2	--	--
11	Arsenic as As	µg/L	0.05	ND	0.02	ND	0.1	10	No relaxation
12	Lead as Pb	µg/L	ND	0.33	0.25	0.04	ND	10	No relaxation
13	Cadmium as Cd	µg/L	ND	ND	ND	0.03	0.05	3.0	No relaxation
14	Total Chromium as Cr	µg/L	0.21	ND	0.22	0.05	0.048	50	No relaxation

15	Zinc as Zn	µg/L	92.3	95.2	78.5	77.3	101.3	5000	No relaxation
16	Fluoride as F	mg/L	ND	0.02	ND	0.02	ND	1.0	1.9
17	Iron as Fe	µg/L	16.5	15.2	30.3	45.6	35.2	300	1000
18	Nitrate	mg/L	1.4	1.2	1.0	1.02	1.3	45	100
19	Sodium as Na	mg/L	2.8	3.2	4.4	4.9	5.1	150	No relaxation
20	Potassium as K	mg/L	ND	0.04	0.1	0.1	0.2	12	No relaxation
21	Sulfate	mg/L	ND	ND	0.05	0.02	0.4	200	400
22	Total Silica as SiO_2	mg/L	0.6	ND	0.66	ND	1.2	--	--
23	Total suspended Solid	mg/L	0.15	1.2	1.1	0.28	1.2	--	--
24	Total dissolved Solid	mg/L	89	75.4	72.9	95.3	82.4	250	2000
25	Turbidity	NTU	0.2	0.4	0.45	0.5	0.6	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORT FOR THE MONTH OF FEBRUARY - 2024

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF FEBRUARY -2024

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	14- FEBRUARY - 2024	OCPL/GWL/01/02/24
7.	Sample02	NEDIGUTH	14- FEBRUARY - 2024	OCPL/GWL/02/02/24
8.	Sample03	TALASAHI	14- FEBRUARY - 2024	OCPL/GWL/03/02/24
9.	Sample04	PLANT-1(Near Canteen)	14- FEBRUARY - 2024	OCPL/GWL/04/02/24
10.	Sample05	PLANT-2(SLIMEPOND)	14- FEBRUARY - 2024	OCPL/GWL/05/02/24

MONITORINGRESULT

Sl No.	Nameofthelocation	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dug well	0.83	8.12	7.78	--
2	NEDIGUTH	Dug well	1.22	9.44	7.1	--
3	TALASAHI	Dug well	1.0	8.6	7.1	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	65	12.2	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	61	37.9	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORTFOR THE MONTH OF FEBRUARY - 2024

REPORT ON STACK MONITORING FOR THE MONTH OF FEBRUARY -2024

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1		✓					
DGStack-2		✓					
Stack-1(Pellet Plant Process Stack)			✓				
Stack-2(Pellet Plant Dedusting Stack)			✓				

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/SM/02/24-01
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**05.02.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/SM/02-24/01
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 05.02.2024

ANALYSISRESULT

A.	**General information about stack:**	
1.	Stack connected to	: DG-1
2.	Emission due to	: Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	: Circular
5.	Serial no.	: N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250 KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		: HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2. Fuel Consumption: NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(ºC)	77.8	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	284	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	12.5	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	668	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.3	--	IS13270:1992, Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	23.2	--	IS13270:1992, Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	6.4	--	IS13270:1992, Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	122.1	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	78.2	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	38.5	50	IS11255(PartI):1985, RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/BBS/SM/02/24-02
M/SESSEL MINING & INDUSTRIES LTD	**Date** :05.02.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/SM/02-24/02
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :05.02.2024

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(ºC)	82.1		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	323		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	32.1		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1627		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.6		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	26.1		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	12.3		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	165	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	75.2	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	35.3	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	06.02.2024
Stack-2	Pellet plant de-dusting stack	Electricity	06.02.2024

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(°C)	Velocity NM^3/Hr
1	Pellet plant process stack	80	7159	95.3	35658
2	Pellet plant de-dusting stack	60	6562	94.2	36492

Stack No.	Stack Description	Carbon monoxide(**CO**) Mg/nm^3	Carbon dioxide(**CO2**) %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.3	139	122.5	182.4	78.3
2	Pellet plant de-dusting stack	<0.2	7.8	122.7	142.5	178.5	65.1

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

ENVIRONMENTAL MONITORING REPORT FOR THE MONTH OF MARCH-2024 FOR ESSELMINING & INDUSTRIES LTD.

M/S ESSEL MINING & INDUSTRIES LTD.

VILL-BASANTPUR, PO-DUBUNA, TEHSIL-JHUMPURA,KEONJHAR

CONTENTS

AMBIENT AIR MONITORING REPORT FOR THE MONTH OF MARCH -2024

AMBIENT AIR QUALITY MONITORING DATA

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
NearECR-1		✓				✓	
Near Canteen		✓				✓	
Near Admin Building		✓				✓	
Nadiguth Village			✓				✓

SUMMARY SHEET OF SAMPLING

SlNo.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near ECR-1	01.03.2024	OCPL/AAQ/EMIL/01/03/24
2.	Sample02	Near Canteen	01.03.2024	OCPL/AAQ/EMIL/02/03/24
3.	Sample03	Near Admin Building	01.03.2024	OCPL/AAQ/EMIL/03/03/24
4.	Sample04	Nedigutha Village	02.03.2024	OCPL/AAQ/EMIL/04/03/24
5.	Sample05	Near ECR-1	04.03.2024	OCPL/AAQ/EMIL/05/03/24
6.	Sample06	Near Canteen	04.03.2024	OCPL/AAQ/EMIL/06/03/24
7.	Sample07	Near Admin Building	04.03.2024	OCPL/AAQ/EMIL/07/03/24
8.	Sample08	Nedigutha Village	05.03.2024	OCPL/AAQ/EMIL/08/03/24
9.	Sample09	Near ECR-1	08.03.2024	OCPL/AAQ/EMIL/09/03/24
10.	Sample10	Near Canteen	08.03.2024	OCPL/AAQ/EMIL/10/03/24
11.	Sample11	Near Admin Building	08.03.2024	OCPL/AAQ/EMIL/11/03/24
12.	Sample12	Nedigutha Village	09.03.2024	OCPL/AAQ/EMIL/12/03/24
13.	Sample13	NearECR-1	11.03.2024	OCPL/AAQ/EMIL/13/03/24
14.	Sample14	Near Canteen	11.03.2024	OCPL/AAQ/EMIL/14/03/24
15.	Sample15	Near Admin Building	11.03.2024	OCPL/AAQ/EMIL/15/03/24
16.	Sample16	Nedigutha Village	12.03.2024	OCPL/AAQ/EMIL/16/03/24

17.	Sample17	NearECR-1	15.03.2024	OCPL/AAQ/EMIL/17/03/24
18.	Sample18	Near Canteen	15.03.2024	OCPL/AAQ/EMIL/18/03/24
19.	Sample19	Near Admin Building	15.03.2024	OCPL/AAQ/EMIL/19/03/24
20.	Sample20	Nedigutha Village	16.03.2024	OCPL/AAQ/EMIL/20/03/24
21.	Sample21	NearECR-1	18.03.2024	OCPL/AAQ/EMIL/21/03/24
22.	Sample22	Near Canteen	18.03.2024	OCPL/AAQ/EMIL/22/03/24
23.	Sample23	Near Admin Building	18.03.2024	OCPL/AAQ/EMIL/23/03/24
24.	Sample24	Nedigutha Village	19.03.2024	OCPL/AAQ/EMIL/24/03/24
25.	Sample25	NearECR-1	22.03.2024	OCPL/AAQ/EMIL/25/03/24
26.	Sample26	Near Canteen	22.03.2024	OCPL/AAQ/EMIL/26/03/24
27.	Sample27	Near Admin Building	22.03.2024	OCPL/AAQ/EMIL/27/03/24
28.	Sample28	Nedigutha Village	23.03.2024	OCPL/AAQ/EMIL/28/03/24
29.	Sample29	NearECR-1	25.03.2024	OCPL/AAQ/EMIL/29/03/24
30.	Sample30	Near Canteen	25.03.2024	OCPL/AAQ/EMIL/30/03/24
31.	Sample31	Near Admin Building	25.03.2024	OCPL/AAQ/EMIL/31/03/24
32.	Sample32	Nedigutha Village	26.03.2024	OCPL/AAQ/EMIL/32/03/24
33.	Sample33	NearECR-1	29.03.2024	OCPL/AAQ/EMIL/33/03/24
34.	Sample34	Near Canteen	29.03.2024	OCPL/AAQ/EMIL/34/03/24
35.	Sample35	Near Admin Building	29.03.2024	OCPL/AAQ/EMIL/35/03/24
36.	Sample36	Nedigutha Village	30.03.2024	OCPL/AAQ/EMIL/36/03/24

LOCATION: NEAR ECR-1

Parameters	Limit(µg/M3	Date									
		01.03.24	04.03.24	08.03.24	11.03.24	15.03.24	18.03.24	22.03.24	25.03.24	29.03.24	Avg
PM10	100	88.50	80.15	61.77	59.96	52.28	52.02	53.06	50.42	51.15	61.03
PM2.5	60	58.64	59.77	46.17	42.84	41.81	40.50	40.48	41.54	42.84	46.07
Sulphur Dioxide (SO2)	80	37.29	36.13	27.31	20.33	25.57	21.46	20.69	26.38	28.27	27.05
Oxide of Nitrogen (NO2)	80	32.21	30.06	20.41	28.09	23.57	23.79	22.23	23.61	22.62	25.05
Lead(Pb)	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO) (8Hrs)	2000	174.20	173.74	145.93	142.82	142.85	148.39	148.81	147.55	145.54	152.20
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH3)	400	16.66	14.35	12.01	11.74	12.90	12.78	13.49	11.13	11.13	12.91
Benzene(C6 H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM10&PM2.5, SO2, NO2, &CO has been done aspertheISCodeIS:5182 Part IV, II, VI, X&XVII respectively

LOCATION: NEAR CANTEEN

Parameters	**Limit (µg/ M^3)**	DATE									
		01.03.24	04.03.24	08.03.24	11.03.24	15.03.24	18.03.24	22.03.24	25.03.24	29.03.24	Avg
PM10	100	89.23	80.67	62.34	60.98	52.80	52.73	53.62	51.27	52.23	61.76
PM2.5	60	59.62	60.82	47.04	43.93	42.67	41.04	41.63	42.56	44.62	47.10
Sulphur Dioxide (SO_2)	80	38.34	36.95	28.23	20.90	26.43	22.41	21.38	27.39	28.34	27.82
Oxide of Nitrogen (NO_2)	80	32.91	31.25	21.31	28.82	24.44	24.55	23.03	24.79	22.91	26.00
Lead (Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	173.50	172.89	145.38	141.69	141.60	147.82	148.25	146.50	145.31	151.44
Ozone(O_3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia (NH_3)	400	36.45	37.36	19.15	18.90	17.48	17.25	17.98	16.68	18.89	22.24
Benzene (C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene (BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460 &Envirotech-APM-550

Measurement of PM_{10}&$PM_{2.5}$, SO_2, NO_2, &CO has been done as per the IS Code IS:5182 PartIV, II, VI, X&XVII respectively

LOCATION: NEAR ADMIN BUILDING

Parameters	Limit (µg/M^3)	DATE									
		01.03.24	04.03.24	08.03.24	11.03.24	15.03.24	18.03.24	22.03.24	25.03.24	29.03.24	Avg
PM10	100	78.23	81.18	64.00	63.11	54.40	54.30	55.50	52.50	52.90	61.79
PM2.5	60	60.16	62.04	48.68	45.60	44.66	42.24	43.94	44.80	49.01	49.01
Sulphur Dioxide (SO_2)	80	40.38	38.47	29.62	22.01	28.55	24.07	23.36	28.73	29.40	29.40
Oxide of Nitrogen(NO_2)	80	34.75	33.02	22.42	30.87	25.87	26.51	25.00	26.33	28.10	28.01
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	165.45	169.11	132.98	141.24	132.69	135.47	130.37	137.02	139.00	142.59
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH_3)	400	33.80	34.97	17.30	14.91	15.13	16.64	17.15	15.04	19.79	20.53
Benzene(C_6H_6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a) Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS– BL– 460&Environtech-APM-550

Measurement of PM_{10}&$PM_{2.5}$, SO_2,NO_2,&CO has been done aspertheISCodeIS:5182 PartIV,II,VI,X&XVII respectively

LOCATION: NEDIGUTHA VILLAGE

Parameters	Limit (µg/M3)	DATE									
		02.03.24	05.03.24	09.03.24	12.03.24	16.03.24	19.03.24	23.03.24	25.03.24	30.03.24	Avg
PM10	100	44.97	45.76	37.04	37.82	37.25	37.31	36.10	35.62	33.98	38.42
PM2.5	60	43.95	45.79	34.79	36.68	34.21	33.89	34.47	34.22	34.75	36.97
Sulphur Dioxide (SO2)	80	20.06	19.91	18.22	15.12	16.61	14.62	15.70	18.77	14.38	17.04
Oxide of Nitrogen (NO2)	80	18.85	18.33	16.05	15.21	14.38	13.96	13.59	15.85	12.28	15.38
Lead(Pb)	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Monoxide (CO)(8Hrs)	2000	147.19	149.04	135.74	134.62	136.52	137.93	131.59	134.09	135.84	138.06
Ozone(O3)	180	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ammonia(NH3)	400	13.00	14.23	11.00	12.04	11.95	12.85	11.83	12.52	11.93	12.37
Benzene(C6H6)	05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)Pyrene(BaP) Particulate phase only(ng/m3)	01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic(As) (ng/m3)	06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel(Ni) (ng/m3)	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not Detectable

Name of the calibrated Instrument: RDS–BL –460&Environtech-APM-550

Measurement of PM10& PM2.5, SO2, NO2, &CO has been done as per the IS Code IS: 5182 PartIV,II,VI,X&XVII respectively

NOISE LEVEL MONITORING REPORT FOR THE MONTH OF MARCH-2024

NOISE LEVEL MONITORING RESULT (IN DBA) FOR THE MONTH OF MARCH

LOCATION AND WEEKLY MONITORING SCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
Near Main Gate Area		✓				✓	
Near Back Gate Area		✓				✓	
Near Pellet Plant Area		✓				✓	
Near IOBP Area		✓				✓	

SUMMARYSHEETOFSAMPLING

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	Near Main Gate Area	01.03.2024	OCPL/NL/EMIL/01/03/24
2.	Sample02	Near Back Gate Area	01.03.2024	OCPL/NL/EMIL/02/03/24
3.	Sample03	Near Pellet Plant Area	01.03.2024	OCPL/NL/EMIL/03/03/24
4.	Sample04	Near IOBP Area	01.03.2024	OCPL/NL/EMIL/04/03/24
5.	Sample05	Near Main Gate Area	04.03.2024	OCPL/NL/EMIL/05/03/24
6.	Sample06	Near Back Gate Area	04.03.2024	OCPL/NL/EMIL/06/03/24
7.	Sample07	Near Pellet Plant Area	04.03.2024	OCPL/NL/EMIL/07/03/24
8.	Sample08	Near IOBP Area	04.03.2024	OCPL/NL/EMIL/08/03/24
9.	Sample09	Near Main Gate Area	08.03.2024	OCPL/NL/EMIL/09/03/24
10.	Sample10	Near Back Gate Area	08.03.2024	OCPL/NL/EMIL/10/03/24
11.	Sample11	Near Pellet Plant Area	08.03.2024	OCPL/NL/EMIL/11/03/24
12.	Sample12	Near IOBP Area	08.03.2024	OCPL/NL/EMIL/12/03/24
13.	Sample13	Near Main Gate Area	11.03.2024	OCPL/NL/EMIL/13/03/24
14.	Sample14	Near Back Gate Area	11.03.2024	OCPL/NL/EMIL/14/03/24
15.	Sample15	Near Pellet Plant Area	11.03.2024	OCPL/NL/EMIL/15/03/24
16.	Sample16	Near IOBP Area	11.03.2024	OCPL/NL/EMIL/16/03/24

17.	Sample17	Near Main Gate Area	15.03.2024	OCPL/NL/EMIL/17/03/24
18.	Sample18	Near Back Gate Area	15.03.2024	OCPL/NL/EMIL/18/03/24
19.	Sample19	Near Pellet Plant Area	15.03.2024	OCPL/NL/EMIL/19/03/24
20.	Sample20	Near IOBP Area	15.03.2024	OCPL/NL/EMIL/20/03/24
21.	Sample21	Near Main Gate Area	18.03.2024	OCPL/NL/EMIL/21/03/24
22.	Sample22	Near Back Gate Area	18.03.2024	OCPL/NL/EMIL/22/03/24
23.	Sample23	Near Pellet Plant Area	18.03.2024	OCPL/NL/EMIL/23/03/24
24.	Sample24	Near IOBP Area	18.03.2024	OCPL/NL/EMIL/24/03/24
25.	Sample25	Near Main Gate Area	22.03.2024	OCPL/NL/EMIL/25/03/24
26.	Sample26	Near Back Gate Area	22.03.2024	OCPL/NL/EMIL/26/03/24
27.	Sample27	Near Pellet Plant Area	22.03.2024	OCPL/NL/EMIL/27/03/24
28.	Sample28	Near IOBP Area	22.03.2024	OCPL/NL/EMIL/28/03/24
29.	Sample29	Near Main Gate Area	25.03.2024	OCPL/NL/EMIL/29/03/24
30.	Sample30	Near Back Gate Area	25.03.2024	OCPL/NL/EMIL/30/03/24
31.	Sample31	Near Pellet Plant Area	25.03.2024	OCPL/NL/EMIL/31/03/24
32.	Sample32	Near IOBP Area	25.03.2024	OCPL/NL/EMIL/32/03/24
33.	Sample33	Near Main Gate Area	29.03.2024	OCPL/NL/EMIL/33/03/24
34.	Sample34	Near Back Gate Area	29.03.2024	OCPL/NL/EMIL/34/03/24
35.	Sample35	Near Pellet Plant Area	29.03.2024	OCPL/NL/EMIL/35/03/24
36.	Sample36	Near IOBP Area	29.03.2024	OCPL/NL/EMIL/36/03/24

Date of Monitoring: 01.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day3. 00-4.00pm	Evening 6.00-7.00pm	Night1 0.00-11.00pm
1	Near Main Gate Area	63.97	66.80	53.88	49.17	31.88
2	Near Back Gate Area	42.53	46.37	38.08	35.57	32.24
3	Near Pellet Plant Area	65.21	66.44	38.00	62.83	25.85
4	Near IOBP Area	56.49	58.69	37.92	47.67	35.58
5	**Ambient Noise Standard**	**Day Time (in dB(A)) Leq**			**Night Time (in dB(A)) Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:04.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	55.22	63.30	56.43	61.82	36.55
2	Near Back Gate Area	39.17	51.04	49.56	45.29	28.82
3	Near Pellet Plant Area	56.18	54.95	47.03	51.62	35.14
4	Near IOBP Area	58.39	57.18	43.05	45.80	29.42
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:08.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	40.21	42.67	43.69	37.74	30.79
2	Near Back Gate Area	39.77	43.31	40.25	39.50	32.92
3	Near Pellet Plant Area	40.24	42.37	43.29	33.85	30.27
4	Near IOBP Area	40.62	44.07	43.13	36.79	31.94
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:11.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	41.35	45.43	44.45	38.90	31.95
2	Near Back Gate Area	40.71	48.90	40.84	40.30	34.12
3	Near Pellet Plant Area	41.25	42.93	44.28	34.91	31.11
4	Near IOBP Area	41.18	45.02	43.91	37.62	33.10
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

DateofMonitoring:15.03.2024

S.L No	Station	Day 6.00-7.00am	Day1 0.00-11.00am	Day 3.00-4.00pm	Evening6.00 -7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	41.07	43.80	44.64	38.37	31.68
2	Near Back Gate Area	40.56	48.83	44.70	40.23	33.52
3	Near Pellet Plant Area	41.19	44.91	44.30	34.99	31.19
4	Near IOBP Area	41.63	45.14	44.86	37.40	32.75
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:18.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	41.13	45.86	44.39	38.86	31.70
2	Near Back Gate Area	40.45	44.14	44.56	40.40	33.89
3	Near Pellet Plant Area	40.57	48.10	44.54	34.68	31.08
4	Near IOBP Area	40.94	44.93	44.83	37.85	33.10
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:22.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	41.08	48.58	44.30	38.71	31.96
2	Near Back Gate Area	40.28	44.21	44.60	40.58	34.03
3	Near Pellet Plant Area	40.58	45.01	44.29	34.96	31.14
4	Near IOBP Area	40.28	44.79	44.75	37.48	33.00
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:25.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	40.87	45.28	44.52	38.66	31.46
2	Near Back Gate Area	40.33	48.86	44.38	40.17	33.96
3	Near Pellet Plant Area	39.55	43.19	44.66	34.64	31.04
4	Near IOBP Area	40.38	44.74	44.66	37.99	32.58
5	**Ambient Noise Standard**	**Day Time(in dB(A))Leq**			**Night Time(in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

Date of Monitoring:29.03.2024

S.L No	Station	Day 6.00-7.00am	Day 10.00-11.00am	Day 3.00-4.00pm	Evening 6.00-7.00pm	Night 10.00-11.00pm
1	Near Main Gate Area	40.92	45.45	44.46	38.92	31.58
2	Near Back Gate Area	40.67	48.89	45.44	40.18	33.85
3	Near Pellet Plant Area	39.02	43.27	44.33	34.74	31.11
4	Near IOBP Area	38.59	44.86	42.36	37.71	32.94
5	**Ambient Noise Standard**	**Day Time (in dB(A))Leq**			**Night Time (in dB(A))Leq**	
i	Industrial	75.0			70.0	

Instrument used: Larson Devis

SURFACE WATER ANALYSIS REPORTFOR THE MONTH OF MARCH-2024

SURFACE WATER ANALYSIS FOR THE MONTH OF MARCH 2024
SUMMARY SHEET OF SAMPLING(SURFACE WATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	BAITARANI RIVER (DHANURJAYPUR)	07- MARCH-2024	OCPL/SW/01/03/24
2.	Sample02	BAITARANI RIVE (NEARPLANTAREA)	07- MARCH-2024	OCPL/SW/02/03/24
3.	Sample03	RESERVOUR POND INSIDEPLANT	07- MARCH-2024	OCPL/SW/03/03/24
4.	Sample04	DALKI NALA NEAR PLANT	07- MARCH-2024	OCPL/SW/04/03/24
5.	Sample05	NADIGUTH	07- MARCH-2024	OCPL/SW/05/03/24

Location: BAITARANI RIVER(DHANURJAYPUR)

Lab Sample Code: OCPL/SW/01/03/24		**Report No.-OCPL/EMIL/01/03/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**BAITARANIRIVER (DHANURJAYPUR)**	Sample collected by	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07- MARCH-2024
Sample quantity	1no.sX1Lit.	Date of sample received	08- MARCH -2024
Sample type	Surface Water	Date of Analysis	08- MARCH -2024
Required parameters	As described in W/O	Date of Issue of report	15- MARCH -2024
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	36.8
4	pH	-	7.1
5	Total Suspended Solids	mg/L	8.4
6	Total Dissolved Solid	mg/L	453
7	Biochemical Oxygen Demand at 27°C	mg/L	7.7
8	Chemical Oxygen Demand	mg/L	7.2
9	Total Residual Chlorine	mg/L	6.9
10	Alkalinity	mg/L	142
11	Calcium	mg/L	36.7
12	Magnesium	mg/L	29.7
13	Total Hardness as CaCO3	mg/L	64

14	Electrical Conductivity	µs/cm	185
15	Turbidity	NTU	7.1
16	Arsenic as As	µg/L	1.4
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	3.87
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	8.0
21	Fluoride as F	mg/L	0.225
22	Iron as Fe	mg/L	18.6
23	Nitrate	mg/L	7.1
24	Sodium as Na	mg/L	6.23
25	Potassium as K	mg/L	1.23
26	Sulfate	mg/L	0.485
27	Nitrate as NO3	mg/L	4.8
28	Total Silica as SiO2	mg/L	11.64
29	Total dissolved Solid	mg/L	487

Location: BAITARANI RIVER (NEARPLANTAREA)

Lab Sample Code: OCPL/SW/02/03/24		**Report No.-OCPL/EMIL/02/03/24**	
Sample description:		Test method	APHA 22nd edition
Sample location	**BAITARANIRIVER (NEARPLANTAREA)**	Sample collected by	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07- MARCH -2024
Sample quantity	1no.sX1Lit.	Date of sample received	08- MARCH -2024
Sample type	Surface Water	Date of Analysis	08- MARCH -2024
Required parameters	As described in W/O	Date of Issue of report	15- MARCH -2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	29.5
4	pH	-	7.1
5	Total Suspended Solids	mg/L	9.2
6	Total Dissolved Solid	mg/L	498
7	Biochemical Oxygen Demand at27°C	mg/L	6.4
8	Chemical Oxygen Demand	mg/L	5.3
9	Total Residual Chlorine	mg/L	3.12
10	Alkalinity	mg/L	65.1
11	Calcium	mg/L	10.23
12	Magnesium	mg/L	7.7
13	Total Hardness asCaCO3	mg/L	45.6
14	Electrical Conductivity	µs/cm	185

15	Turbidity	NTU	12.85
16	Arsenic as As	µg/L	0.51
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	4.7
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	18.45
21	Fluoride as F	mg/L	0.43
22	Iron as Fe	mg/L	26.2
23	Nitrate	mg/L	3.1
24	Sodium as Na	mg/L	1.68
25	Potassium as K	mg/L	2.33
26	Sulfate	mg/L	<0.01
27	Nitrate as NO_3	mg/L	3.1
28	Total Silica as SiO_2	mg/L	1.65
29	Total dissolved Solid	mg/L	496

Location: RESERVOUR POND INSIDE PLANT PREMISES

Lab Sample Code: OCPL/SW/03/03/24		**Report No.-OCPL/EMIL/03/03/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**RESERVOUR PONDINSIDEPLANT PREMISES**	Sample collected by	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07- MARCH-2024
Sample quantity	1no.sX1Lit.	Date of sample received	08- MARCH-2024
Sample type	Surface Water	Date of Analysis	08- MARCH-2024
Required parameters	As described in W/O	Date of Issue of report	15- MARCH-2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	OK

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	1.1
2	Odour	-	Agreeable
3	Temperature	°C	28.6
4	pH	-	7.2
5	Total Suspended Solids	mg/L	39.2
6	Total Dissolved Solid	mg/L	569
7	Biochemical Oxygen Demand at 27°C	mg/L	35.8
8	Chemical Oxygen Demand	mg/L	15.2
9	Total Residual Chlorine	mg/L	12.4
10	Alkalinity	mg/L	169
11	Calcium	mg/L	45
12	Magnesium	mg/L	28.6

13	Total Hardness as CaCO3	mg/L	165.5
14	Electrical Conductivity	µs/cm	268
15	Turbidity	NTU	32.3
16	Arsenic as As	µg/L	3.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	16.1
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	1.45
22	Iron as Fe	mg/L	35.2
23	Nitrate	mg/L	4.1
24	Sodium as Na	mg/L	9.5
25	Potassium as K	mg/L	2.83
26	Sulfate	mg/L	5.6
27	Nitrate as NO3	mg/L	7.3
28	Total Silica as SiO2	mg/L	8.5
29	Total dissolved Solid	mg/L	597

Location: DALKINALA, NEAR PLANT

Lab Sample Code: OCPL/SW/04/03/24		**Report No.-OCPL/EMIL/04/03/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**DALKI NALA, NEARPLANT**	Sample collected by	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07- MARCH-2024
Sample quantity	1no.sX1Lit.	Date of sample received	08- MARCH-2024
Sample type	Surface Water	Date of Analysis	08- MARCH-2024
Required parameters	As described in W/O	Date of Issue of report	15- MARCH-2024
EMIL reference	WONo.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	27.8
4	pH	-	7.1
5	Total Suspended Solids	mg/L	19.2
6	Total Dissolved Solid	mg/L	659
7	BiochemicalOxygenDemand at27°C	mg/L	15.3
8	Chemical Oxygen Demand	mg/L	6.2
9	Total Residual Chlorine	mg/L	2.5
10	Alkalinity	mg/L	166
11	Calcium	mg/L	49
12	Magnesium	mg/L	21.2
13	Total Hardness as CaCO3	mg/L	88.5
14	Electrical Conductivity	µs/cm	258
15	Turbidity	NTU	25

16	Arsenic as As	µg/L	0.36
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.48
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	17.2
21	Fluoride as F	mg/L	0.52
22	Iron as Fe	mg/L	29.6
23	Nitrate	mg/L	7.2
24	Sodium as Na	mg/L	6.6
25	Potassium as K	mg/L	4.5
26	Sulfate	mg/L	3.3
27	Nitrate as NO3	mg/L	8.22
28	Total Silica as SiO2	mg/L	6.5
29	Total dissolved Solid	mg/L	632

Location: NADIGUTH

Lab Sample Code: OCPL/SW/05/03/24		**Report No.-OCPL/EMIL/05/03/24**	
Sample description:		Test method	APHA22nd edition
Sample location	**NADIGUTH**	Sample collected by	OCPL representative
Location	Keonjhar, Odisha	Date of Sampling	07- MARCH-2024
Sample quantity	1no.sX1Lit.	Date of sample received	08- MARCH-2024
Sample type	Surface Water	Date of Analysis	08- MARCH-2024
Required parameters	As described in W/O	Date of Issue of report	15- MARCH-2024
EMIL reference	WO No.-1060/ADMIN/5500004339	Sample condition at receipt	Ok

ANALYSISRESULT

Sl. No.	**TESTPARAMETER**	**UOM**	**Results**
1	Colour	Pt-Co	<1
2	Odour	-	Agreeable
3	Temperature	°C	29.4
4	pH	-	7.1
5	Total Suspended Solids	mg/L	14.1
6	Total Dissolved Solid	mg/L	689
7	Biochemical Oxygen Demand at27°C	mg/L	12.8
8	Chemical Oxygen Demand	mg/L	5.6
9	Total Residual Chlorine	mg/L	6.2
10	Alkalinity	mg/L	65.4
11	Calcium	mg/L	9.1
12	Magnesium	mg/L	7.1
13	Total Hardness as CaCO3	mg/L	45
14	Electrical Conductivity	µs/cm	95.2
15	Turbidity	NTU	16.8

16	Arsenic as As	µg/L	<0.5
17	Lead as Pb	µg/L	<0.5
18	Cadmium as Cd	µg/L	0.64
19	Total Chromium as Cr	µg/L	<0.5
20	Zinc as Zn	µg/L	<0.5
21	Fluoride as F	mg/L	0.44
22	Iron as Fe	mg/L	26
23	Nitrate	mg/L	4.43
24	Sodium as Na	mg/L	6.24
25	Potassium as K	mg/L	3.4
26	Sulfate	mg/L	8.1
27	Nitrate as NO_3	mg/L	4.2
28	Total Silica as SiO_2	mg/L	4.8
29	Total dissolved Solid	mg/L	594

GROUND WATER ANALYSIS REPORT FOR THE MONTH OF MARCH -2024

GROUND WATER MONITORING REPORT SUMMARY SHEET OF SAMPLING (GROUNDWATER):

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
1.	Sample01	MALDAVILLAGE	12- MARCH - 2024	OCPL/GW/01/03/24
2.	Sample02	NEDIGUTH	12- MARCH - 2024	OCPL/GW/02/03/24
3.	Sample03	TALASAHI	12- MARCH - 2024	OCPL/GW/03/03/24
4.	Sample04	PLANT-1(Near Canteen)	12- MARCH - 2024	OCPL/GW/04/03/24
5.	Sample05	PLANT-2(SLIMEPOND)	12- MARCH - 2024	OCPL/GW/05/03/24

ANALYSIS RESULT (With drinking water specifications, BIS (As per 10500- 2012BIS)

Sl. No.	TEST PARAMETER	UOM	Results					BIS Desirable limit	Permissible limit with the absence of alternate source
			MALDA VILLAGE	NEDIGUTH	TALASAHI	PLANT- 1 (Near Canteen)	PLANT-2 (SLIMEPOND)		
1	Colour	Pt-Co	1.1	1.0	1.1	1.2	1.2		
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable		
3	Temperature	°C	28.3	29.8	28	27.6	28.3		
4	pH	-	6.8	7.0	7.2	6.9	7.1	6.5-8.5	No relaxation
5	Total Hardness (as CaCO3)	mg/L	63.1	58.3	52.3	58.2	48.6	300	600
6	Calcium	mg/L	8.9	8.2	10.6	12.1	10.8	75	200
7	Magnesium	mg/L	1.1	3.2	4.8	3.8	1.9	30	No relaxation
8	Chloride	mg/L	15.6	15.5	14.8	11.2	23.3	250	1000
9	Alkalinity	mg/L	19.3	14.1	22	11.4	20.3	200	600
10	Electrical Conductivity	µs/cm	55	59.3	62.3	69.3	78.2	--	--
11	Arsenic as As	µg/L	0.05	ND	0.02	ND	0.1	10	No relaxation
12	Lead as Pb	µg/L	ND	0.33	0.25	0.04	ND	10	No relaxation
13	Cadmium as Cd	µg/L	ND	ND	ND	0.03	0.05	3.0	No relaxation
14	Total Chromium as Cr	µg/L	0.21	ND	0.22	0.05	0.048	50	No relaxation

15	Zinc as Zn	µg/L	92.3	95.2	78.5	77.3	101.3	5000	No relaxation
16	Fluoride as F	mg/L	ND	0.02	ND	0.02	ND	1.0	1.9
17	Iron as Fe	µg/L	16.5	15.2	30.3	45.6	35.2	300	1000
18	Nitrate	mg/L	1.4	1.2	1.0	1.02	1.3	45	100
19	Sodium as Na	mg/L	2.8	3.2	4.4	4.9	5.1	150	No relaxation
20	Potassium as K	mg/L	ND	0.04	0.1	0.1	0.2	12	No relaxation
21	Sulfate	mg/L	ND	ND	0.05	0.02	0.4	200	400
22	Total Silica as SiO2	mg/L	0.6	ND	0.66	ND	1.2	--	--
23	Total suspended Solid	mg/L	0.15	1.2	1.1	0.28	1.2	--	--
24	Total dissolved Solid	mg/L	89	75.4	72.9	95.3	82.4	250	2000
25	Turbidity	NTU	0.2	0.4	0.45	0.5	0.6	5	10

Sampling By: Mr. Hrusikesh Das

GROUND WATER LEVEL ANALYSIS REPORT FOR THE MONTH OF MARCH - 2024

REPORT ON GROUND WATER LEVEL ANALYSISFOR THE MONTH OF MARCH -2024

SUMMARYSHEETOFMONITORING:

Sl No.	Sample Nos.	Location	Date of Sampling	Lab Sample Code
6.	Sample01	MALDAVILLAGE	23- MARCH - 2024	OCPL/GWL/01/03/24
7.	Sample02	NEDIGUTH	23- MARCH - 2024	OCPL/GWL/02/03/24
8.	Sample03	TALASAHI	23- MARCH - 2024	OCPL/GWL/03/03/24
9.	Sample04	PLANT-1(Near Canteen)	23- MARCH - 2024	OCPL/GWL/04/03/24
10.	Sample05	PLANT-2(SLIMEPOND)	23- MARCH - 2024	OCPL/GWL/05/03/24

MONITORING RESULT

Sl No.	Name of the location	Type of well	Dia. (m)	Depth of the well (m)	Depth of the water table BGL(M)	Remarks
1	MALDAVILLAGE	Dug well	0.83	8.12	7.78	--
2	NEDIGUTH	Dug well	1.22	9.44	7.1	--
3	TALASAHI	Dug well	1.0	8.6	7.1	--
4	PLANT-1(Near Canteen)	Bore-well	0.1	65	12.2	--
5	PLANT-2(SLIME POND)	Bore-well	0.1	61	37.9	--

Sampling By: Mr. Hrusikesh Das

STACK MONITORING REPORT FOR THE MONTH OF MARCH - 2024

REPORT ON STACK MONITORING FOR THE MONTH OF MARCH - 2024

LOCATIONANDMONITORINGSCHEDULE

Location	SUN	MON	TUE	WED	THU	FRI	SAT
DGStack-1		✓					
DGStack-2		✓					
Stack-1(Pellet Plant Process Stack)			✓				
Stack-2(Pellet Plant Dedusting Stack)			✓				

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/SM/03/01
M/S ESSEL MINING & INDUSTRIES LTD.	**Date :**04.03.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/01
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling: 04.03.2024

ANALYSISRESULT

A.	**General information about stack:**	
1.	Stack connected to	: DG-1
2.	Emission due to	: Burning of Diesel
3.	Material of construction of stack	:MS
4.	Shape of Stack	: Circular
5.	Serial no.	: N15E226771
6.	Boiler/Furnace/DG/Kiln Capacity	:1250KVA

B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		: HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used : LDO		2. Fuel Consumption: NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^oC)	77.8	--	IS11255(PartIII),2008RA 2018
2.	Barometric pressure (mm of Hg)	284	--	USEPAPart2- 25/09/1996
3.	Velocity of gas(m/sec.)	12.5	--	IS11255(PartIII),2008RA 2018
4.	Quantity of Gas Flow(Nm^3/hr)	668	--	IS11255(PartIII),2008RA 2018
5.	Concentration of Moisture(%)	<2.0	--	USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.3	--	IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide (mg/Nm^3)	23.2	--	IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	6.4	--	IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	122.1	600	IS11255(PartII),1985RA 2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	78.2	300	IS11255(Part7),2005RA 2017

11.	Concentration of Particulate Matters(mg/Nm^3)	38.5	50	IS11255(PartI):1985, RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Name & Address of the Client:	**Report No.**: OCPL/SM/03/02
M/SESSELMINING&INDUSTRIESLTD	**Date** :04.03.2024
Keonjhar, Odisha, India	**Sample No.**: OCPL/EMIL/2023-24/13
	Sample Description: DG Flue Gas Monitoring
	Date of Sampling :04.03.2024

ANALYSISRESULT

A.	**General information about stack:**			
1.	Stack connected to		:DG-2	
2.	Emission due to		:Burning of Diesel	
3.	Material of construction of stack		:MS	
4.	Shape of Stack		:Circular	
5.	Serial no.		:N15H319963	
6.	Boiler/Furnace/DG/Kiln Capacity		:1250KVA	
B.	**Physical characteristics of stack:**			
1.	Height of the Stack from Ground level		:9m	
2.	Diameter of the stack at sampling point		:400mm	
3.	Height of the Sampling Point from Ground level		:7m	
4.	Type		:HCKI634Z1	
C. 1.	**Analysis/Characteristic of stack:** Fuel used :LDO		2.FuelConsumption:NA	
D .	**Results of sampling & analysis of gaseous emission**	**Result**	**Limit**	**Method**
1.	Temperature of Emission(^{o}C)	82.1		IS11255(Part III),2008RA2018

2.	Barometric pressure (mm of Hg)	323		USEPAPart2-25/09/1996
3.	Velocity of gas (m/sec.)	32.1		IS11255(Part III),2008RA2018
4.	Quantity of Gas Flow(Nm^3/hr)	1627		IS11255(Part III),2008RA2018
5.	Concentration of Moisture(%)	<2.0		USEPA(Part-4)
6.	Concentration of Oxygen(%v/v)	8.6		IS13270:1992,Ref:2009
7.	Concentration of Carbon Monoxide(mg/Nm^3)	26.1		IS13270:1992,Ref:2009
8.	Concentration of Carbon Dioxide(%v/v)	12.3		IS13270:1992,Ref:2009
9.	Concentration of Sulphur Dioxide(mg/Nm^3)	165	600	IS11255(Part II),1985RA2014
10.	Concentration of Nitrogen Dioxide(mg/Nm^3)	75.2	300	IS11255(Part 7),2005RA2017
11.	Concentration of Particulate Matters (mg/Nm^3)	35.3	50	IS11255(Part I):1985,RA2014
E.	**<u>Pollution control device</u>** Details of pollution control devices attached with the stack :NA			
F.	**Remarks**: Nil			

Sampling By: Mr. Hrusikesh Das

TESTREPORT

Stack No.	Stack Description	Emission due to	Date of Sampling
Stack-1	Pellet plant process stack	Burning of furnace oil	05.03.2024
Stack-2	Pellet plant de-dusting stack	Electricity	05.03.2024

ANALYSISRESULT

Stack No.	Stack Description	Stack height (in meter)	Emission M^3/Hr.	Temperature(^oC)	Velocity NM^3/Hr
1	Pellet plant process stack	80	7159	95.3	35658
2	Pellet plant de-dusting stack	60	6562	94.2	36492

Stack No.	Stack Description	Carbon monoxide**(CO)** Mg/nm^3	Carbon dioxide**(CO2)** %v/v	PM Concentration Mg/nm^3		**SO2** Mg/nm^3	**NO2** Mg/nm^3
				PM10	**PM 2.5**		
Norms as per SPCB		1	NA	150	150	NA	NA
1	Pellet plant process stack	<0.2	8.3	139	122.5	182.4	78.3
2	Pellet plant de-dusting stack	<0.2	7.8	122.7	142.5	178.5	65.1

- Measurement of PM has been done as per IS Code IS: 11255 Part 1.
- No. of the calibrated stack kit used: Thermo Environmental Instruments TEI-401

Annexure - B

Sl no.	Particular	Remarks
1	Teacher for Basantpur village school	06 nos teacher
2	Water Tanker for road sprinkling	03 nos
3	RCC road of village panchayat road	From Nedigotha to Jaiphula chowk
4	Ambulance	Service for villagers
5	Basantapur high school (RO system)	
6	Basantapur high school (Bus for Matric Examination)	
7	Misc. (Excavator & Tipper)	As per requirement of villagers