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**Six Monthly (JUNE-2023) Compliance Report for Period October 2022 to March 2023 for Expansion of Integrated Steel Plant (1.2 to 2.0 Million TPA Finished Steel) with 270 MW Captive Power Plant**

1 message

ORISSA ALLOY &lt;orissaalloysteelprivateltd@gmail.com&gt;

Sat, May 27, 2023 at 1:22 PM

To: ms@wbpcb.gov.in, ms.wbpcb-wb@bangla.gov.in, wbpcbnet@wbpcb.gov.in, zokolkatta.cpcb@nic.in, Dr Soma Das &lt;iro.kolkata-mefcc@gov.in&gt;

Bcc: Bijayen Srivastava &lt;bijayen.srivastava@rashmigroup.com&gt;, biswanath@rashmigroup.com, environment.rml3@rashmigroup.co.in

Dear Sir,

With reference to the above, we are here by submitting the six monthly compliance report for period from October 2022 to March 2023 of EC Identification no- EC22A008WB114687 issued vide letter No. J-11011/169/2017-IA. II (I) dated 10.08.2022 for Expansion of Integrated Steel Plant (1.2 To 2.0 Million TPA Finished Steel) with 270 MW Captive Power Plant located at Mouza – Nandarchalk, Bargai, Shyamraipur & Kanjarichak, Village- Gokulpur, P.O.- Shyamraipur, P.S.-Kharagpur (L), Dist. Paschim Medinipur, W.B. by M/s. Orissa Alloy Steel Pvt. Ltd.

Here, we would like to state that conditions mentioned in earlier EC issued vide File No- J-11011/169/2017-IA.II(I); dated on 3<sup>rd</sup> April, 2019, 28<sup>th</sup> January, 2020 and 19<sup>th</sup> March 2021 is already incorporated in latest EC issued on 10<sup>th</sup> August 2022.

We assure that we will comply all the conditions laid down in the consent letter and also abide to follow all the Rules & Regulations.

Hope you will find the same in order.


Thanking you.

Yours Faithfully,

**Authorised Signatory**For, **M/s Orissa Alloy Steel Private Limited****1, Garstin Place, 'Orbit House', Room No-3B, Kolkata-700001****Tel :** 91 33-22894255/ 56**Fax :** 91 33-22894254

Mbl. No-07044070948

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# EC Conditions Six Monthly Compliance Report

(by Project Proponent)



**Proposal No :** IA/WB/IND/261449/2021


## 1. Name of the Entity / Corporate Office :

<b>File No. :</b>	J-11011/169/2017-IA.li(l)	<b>Proposal Name :</b>	Expansion of Integrated Steel Plant (1.2 Million TPA to 2.0 Million TPA Finished Steel) with 270 MW Captive Power Plant
<b>Date Of EC. :</b>	10 Aug 2022	<b>EC Letter :</b>	
<b>Name of the Entity / Corporate Office :</b>	ORISSA ALLOY STEEL PVT. LTD.	<b>Email Address :</b>	orissaalloysteelprivateltd@gmail.com
<b>Address :</b>	ROOM NO 3 B, 1 , GARSTIN PLACE	<b>Mobile No :</b>	9073677514

## 2. Proponent Details :

<b>Proponent Name :</b>	BIJAYEN	<b>Designation :</b>	SENIOR MANAGER
<b>Telephone No :</b>	033-22438518	<b>Mobile No :</b>	+91 9073677514
<b>Fax No :</b>	033-22438517	<b>Email Address :</b>	orissaalloysteelprivateltd@gmail.com
<b>Website :</b>		<b>Pin Code :</b>	700001
<b>State :</b>	West Bengal	<b>District :</b>	Kolkata
<b>Village/Town :</b>			

## 3. Compliance Letter/Report (Proponent):

<b>Compliance Period :</b>	2023 / 01 Jun (01 Oct - 31 March)	<b>Compliance Submission Date :</b>	29 May 2023 19:19:53:610
<b>Remarks :</b>			
<b>Site Visit Report :</b>		<b>Site Visit Date :</b>	30 Mar 2022
<b>ATR Report :</b>	N/A	<b>ATR Date :</b>	N/A
<b>Additional Attachment (If Any) :</b>		<b>Additional Remarks (If Any) :</b>	

## 4. Summary Status of Compliance :


<b>Total Condition :</b>	196		
<b>Complied :</b>	19	<b>Being Complied :</b>	66
<b>Not Complied :</b>	6	<b>Partially Complied :</b>	4
<b>Agreed to Comply :</b>	101		


## 5. Details of Production and Project Area :

Date of Commencement of Project/Activity :		18 Jun 2019	Project Area as Per EC Granted (In Case of Mine Lease):		0
Actual Project Area(In Case of Mine Lease):		0			
<b>PRODUCTION CAPACITY :</b>					
S.No	Name of the Product	Units	As per EC granted	Production during last financial year	
1	Hot Liquid Metal / Pig Iron/ High Quality Billet & steel product	Others	0.77 MTPA	00	
2	Sinter	Others	0.84 MTPA	00	
3	Sponge Iron	Others	1.80 MTPA	0.343	
4	M.S Billet	Others	1.80	00	
5	Metal Recovery	Tons per Day (TPD)	100	00	
6	Ferro Alloys (FeMn, FeSi, SiMn & FeCr)	Tons per Annum (TPA)	78000	21808.47	
7	Metal Recovery	Tons per Day (TPD)	30	00	
8	Chrome Briquette	Others	40 TPH	00	
9	Metallurgical Coke	Others	0.55 MTPA	00	
10	Lime & Dolomite	Tons per Day (TPD)	200	00	
11	Oxygen	Tons per Day (TPD)	600	00	
12	TMT Bar, Wire, Wire Rod	Others	1.8 MTPA	00	
13	DI Pipe, Fitting & Accessories	Others	0.20 MTPA	00	
14	Power	MW	270	00	
15	Iron ore Pellet	Others	11MTPA	0.818 MTPA	
16	Producer Gas	Others	195000 nm3/hr	00	
17	Hot liquid metal/ Pig iron/ High quality Bileet & steel product	Tons per Annum (TPA)	770000	0	
18	Sinter	Tons per Annum (TPA)	840000	0	
19	Sponge Iron	Tons per Annum (TPA)	1800000	343686.40	
20	M.S Billet	Tons per Annum (TPA)	1800000	0	
21	Metal Recovery	Tons per Day (TPD)	100	0	
22	Ferro Alloys (FeMn, FeSi, SiMn & FeCr)	Tons per Annum (TPA)	78000	21108.47	
23	Metal Recovery	Tons per Day (TPD)	30	0	
24	Chrome Briquette	Others	40 TPH	0	
25	Metallurgical Coke	Tons per Annum (TPA)	550000	0	
26	Lime & Dolomite	Tons per Day (TPD)	200	0	
27	Oxygen	Tons per Day (TPD)	600	0	
28	TMT Bar, Wire, Wire Rod	Tons per Annum (TPA)	1800000	0	
29	DI Pipe, Fitting & Accessories	Tons per Annum (TPA)	200000	0	
30	Power	MW	270	0	
31	Iron Ore Pellet	Tons per Annum (TPA)	11000000	818534.63	
32	Producer gas	Others	1,95,000 Nm3/hr	0	
33	Material Handling (Railway Siding)	Others	01 No.	01 No.	


## 6. Specific Conditions (Proponent):

S.No	Condition	Self Declaration	Remarks / Reason	Supporting Documents	Observation of IRO
1	Three tier Green Belt shall be developed in a time frame of one year with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
2	Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.	Being Complied	Greening and paving will be/is being implemented in the plant area to arrest soil erosion and dust pollution.	N/A	
3	Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC. i. Ductile Iron (DI) plant shall have the following provisions: a. Bag filter for Zn coating and Mg converter area. b. Wet scrubbers in paint and bitumen coating area. c. Bag Filter in Cement lining area. d. PTFE dipped bags shall be used in the plant. e. PM emissions from BF in Zinc coating area shall be 5 mg/Nm <sup>3</sup> . f. ETP with recycling facilit	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
4	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Agreed to Comply	Agreed	N/A	
5	The project proponent shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Agreed to Comply	We will comply all the environmental protection measures and safeguards proposed in the documents (EIA/EMP) submitted to the Ministry.	N/A	
6	The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon	Agreed to Comply	Noted Due to space constraint, kindly refer the below attached	N/A	

	sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.		file COMPLIANCE-DEC-2022.		
7	The activities and the action plan proposed by the project proponent to address the issues raised during public hearing and socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.	Agreed to Comply	Noted and will be complied in time bound manner. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
8	Water bodies exists within the study area from the project site. The water bodies shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides. This shall be in addition to the 33% green belt development.	Agreed to Comply	No water body will be disturbed which exists within the study area from the project site.	N/A	
9	Tailings from Iron Ore washing plant shall be dewatered in filter press and no slime / tailing pond shall be permitted.	Being Complied	Tailings from Iron Ore washing plant being dewatered in filter press and no slime/ tailing pond will be permitted.	N/A	
10	Iron ore slimes shall be dewatered and disposed dry. The recovered water shall be reused in the process. Ponding of tailings shall not be permitted. Maximum storage for tailings in the plant shall not exceed 90 days.	Agreed to Comply	Agreed. The recovered water is reused and return back to the process	N/A	
11	Rejects from coal washery shall only be used either in the captive power plant (or) in the Thermal Power Plants meeting emission standards.	Agreed to Comply	Agreed, rejects from coal washery will be used in the captive power plant (or) in the Thermal Power Plants meeting emission standards.	N/A	
12	Solid waste utilization • PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making. • PP shall recycle/reuse 100 % solid waste generated in the plant. • Used refractories shall be recycled as far as possible	Being Complied	Noted and being complied in a time bound manner. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
13	Sinter Plant shall be equipped with Sinter cooler waste recovery system and	Agreed to Comply	Agreed, Sinter Plant is not yet commissioned	N/A	


	suitable technology for control of dioxins and furans emissions from the plant.		and during design phase it will be considered.		
14	Tar shall be recovered from producer gas and shall be sold to registered processors and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.	Being Complied	Agreed, tar recovered from producer gas being sold to registered processors and phenolic water incinerated in After Burn Chamber (ABC) of DRI kilns.	N/A	
15	Coke oven plant shall be equipped with modified wet quenching system.	Being Complied	Agreed, coke oven plant equipped with modified wet quenching system.	N/A	
16	Coke Oven Gas shall be desulfurized.	Agreed to Comply	Noted	N/A	
17	Blast Furnaces shall be equipped with Top Recovery Turbine (capacity more than 550 m3), dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.	Agreed to Comply	Noted and will be considered during the design stage.	N/A	
18	Secondary fume extraction system shall be installed on converters of Steel Melting Shop.	Agreed to Comply	Agreed, Converters of Steel Melting Shop is yet not installed. Secondary fume extraction system will be installed on converters of Steel Melting Shop.	N/A	
19	Basic Oxygen Furnace (BOF) gas shall be cleaned dry.	Agreed to Comply	Noted and will be considered during the design stage.	N/A	
20	Electric Arc Furnace shall be closed type with 4th hole extraction system.	Not Complied	Not applicable. No Electric Arc Furnace is being proposed.	N/A	
21	85-90% of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil or Mixed BF/CO gas/Producer gas.	Agreed to Comply	Agreed, Rolling mill still not commissioned.	N/A	
22	Cold Rolling Mill (CRM), color coating and galvanizing plants shall have CETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.	Not Complied	Not applicable. Cold Rolling Mill (CRM), color coating and galvanizing plants is not proposed.	N/A	
23	Dust emission from Steel Plant stacks shall be up to 30 mg/Nm3.	Being Complied	Agreed, APC device is designed to keep the emission below 30 mg/Nm3		



24	<p>The net water requirement of the ISP after implementation of proposed expansion project would be around 491.67 m<sup>3</sup>/hr (11,800 KLD) which will be obtained from Kharagpur Municipality and Treated waste water.</p> <p>Bore well supply as envisaged earlier will be completely replaced by surface water/ treated waste water in the present proposal for operation phase of the project. No ground water extraction is permitted.</p>	Being Complied	Noted and being complied	N/A	
25	<p>Rain water harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.</p>	Being Complied	<p>Agreed, 02 nos. rain water harvesting being implemented to harvest water.</p> <p>Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.</p>	N/A	
26	<p>The proposed project shall be designed as "Zero Liquid Discharge" Plant. No waste water will be discharged outside the plant boundary.</p>	Being Complied	<p>Agreed no waste water discharged outside plant boundary.ETP cum STP of adequate capacity is installed to treat effluent &amp; reused 100% in plant operation for dust suppression and green belt development</p>	N/A	
27	<p>A proper action plan must be implemented to dispose of the electronic waste generated in the industry.</p>	Agreed to Comply	<p>We've made contract with the authorized e-waste recyclers, the electronic waste generated in the industry will be dispose off by the authorized vendor.</p>	N/A	
28	<p>Railway siding shall be completed by June 2022, as committed by the PP.</p>	Agreed to Comply	<p>Valid consent to operate obtained from West Bengal Pollution Control Board vide CTO no- CO-132105 dated 08.12.2021. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.</p>	N/A	
29	<p>PP shall prepare and implement an action plan giving annual improvement targets for resource conservation and environment improvement.</p>	Agreed to Comply	<p>The project is still under implementation phase. Due to space constraint, kindly refer the</p>	N/A	



	This plan shall be monitored by the concerned Regional Office of the MoEF&CC.		below attached file COMPLIANCE-DEC-2022.		
30	The heat rate of coal based power plant as specified by Central Electricity Authority shall be maintained and monitored.	Agreed to Comply	Noted The heat rate of Coal based power plant as specified by central Electricity Authority shall be considered during the design state of the plant.	N/A	
31	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 kw shall be provided.	Being Complied	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 KW being installed in parallel with implementation of the project.	N/A	
32	PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
33	Shall use ultralow NOx burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH3 monitoring when Ammonia is used.	Agreed to Comply	Will be complied Sinter plant Coal based CPP is not yet commissioned and during design phase it will be considered.	N/A	
34	Parking area for trucks/dumpers shall be provided within the steel plant. No truck/dumper shall be parked outside the steel plant premises.	Agreed to Comply	Agreed 14.93 acres is allocated for parking area for trucks/dumpers within the steel plant. No truck/dumper being parked outside the steel plant premises.	N/A	
35	PP reported that out of the 145.69 hectare of land, 131.53 hectare of land is already in possession of M/s Orissa Alloy Steel Private Limited (Formerly M/s Rashmi Alloy Steel Private Limited) and for rest of land (14.16 ha) consent from private rayat obtained, however land is not yet acquired. This EC is subject to obtaining complete acquisition of land required for the proposed expansion project.	Agreed to Comply	Noted	N/A	
36	This is an existing Unit. PP shall controlled the air pollutants- PM2.5, PM10, SO2, NOx, CO emissions in	Being Complied	The occupational health surveillance of the workers is		




	the occupational environment of different process plants, within the permissible exposure limits of as per the Factories Act. PP shall do the monitoring of industrial hygiene survey within occupational environments in order to ensure good environment within the industry, so that workers health is ensured.		being done on a regular basis and records are maintained as per the Factories Act. The OHS Record is attached.		
37	During operational phase at Captive Power Plant PP shall to measure coal dust exposures and to maintain coal dust exposures within stipulated standards at coal handling areas, conveyer belt and coal crushing area-ball mill. PP shall identify extreme hot areas through heat stress survey as well as noise monitoring within process plants to ensure that workers not exposed above 90 dBA levels as per Factories Act, 1948.	Agreed to Comply	Noted	N/A	
38	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	Agreed to Comply	We have made contract with the authorized e-waste recyclers, the electronic waste generated in the industry being dispose of by the authorized vendor.	N/A	
39	Secondary fume extraction system shall be installed on converters of Steel Melting Shop.	Agreed to Comply	Noted and will be considered during the design stage.	N/A	
40	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	Agreed to Comply	We've made contract with the authorized e-waste recyclers, the electronic waste generated in the industry will be dispose off by the authorized vendor.	N/A	
41	Coke oven plant shall be equipped with modified wet quenching system.	Agreed to Comply	Agreed, coke oven plant equipped with modified wet quenching system and water is recycled post primary settlement.	N/A	
42	Railway siding shall be completed by June 2022, as committed by the PP.	Agreed to Comply	Valid consent to operate obtained from West Bengal Pollution Control Board vide CTO no- CO-132105 dated 08.12.2021.	N/A	

43	Tailings from Iron Ore washing plant shall be dewatered in filter press and no slime /tailing pond shall be permitted.	Agreed to Comply	Current wet grinding is being practiced and no tailing is being generated.	N/A	
44	Iron ore slimes shall be dewatered and disposed dry. The recovered water shall be reused in the process. Ponding of tailings shall not be permitted. Maximum storage for tailings in the plant shall not exceed 90 days.	Agreed to Comply	Agreed, The recovered water is reused and return back to the process	N/A	
45	Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.	Agreed to Comply	Noted and will be complied prior to the commencement of the plant operation activity.	N/A	
46	Cold Rolling Mill (CRM), color coating and galvanizing plants shall have CETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.	Not Complied	Not applicable as Cold Rolling Mill (CRM), color coating and galvanizing plants is not proposed.	N/A	
47	The heat rate of coal based power plant as specified by Central Electricity Authority shall be maintained and monitored.	Agreed to Comply	The heat rate of Coal based power plant as specified by central Electricity Authority shall be considered during the design state of the plant.	N/A	
48	Electric Arc Furnace shall be closed type with 4th hole extraction system.	Not Complied	Not applicable as no Electric Arc Furnace is being proposed.	N/A	
49	Solid waste utilization • PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making. • PP shall recycle/reuse 100 % solid waste generated in the plant. • Used refractories shall be recycled as far as possible	Partially Complied	Pls refer the uploaded documents		
50	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Agreed to Comply	Agreed	N/A	
51	Blast Furnaces shall be equipped with Top Recovery Turbine (capacity more than 550 m3), dry gas cleaning plant, stove waste heat	Agreed to Comply	Noted and will be considered during the design stage.	N/A	

	recovery, cast house and stock house ventilation system and slag granulation facility.				
52	Coke Oven Gas shall be desulfurized.	Agreed to Comply	Noted and being complied.	N/A	
53	The net water requirement of the ISP after implementation of proposed expansion project would be around 491.67 m <sup>3</sup> /hr (11,800 KLD) which will be obtained from Kharagpur Municipality and Treated waste water. Bore well supply as envisaged earlier will be completely replaced by surface water/ treated waste water in the present proposal for operation phase of the project. No ground water extraction is permitted.	Agreed to Comply	The net water requirement of the ISP after implementation of proposed expansion project would be around 491.67 m <sup>3</sup> /hr (11,800 KLD) which will be obtained from Kharagpur Municipality	N/A	
54	PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.	Partially Complied	B will be complied in parallel with implementation of the project. Adequate capacity of Bag Filter has been installed in Ferro alloy plant, secondary unit of DRI plant, DIP line, Pellet plant.	N/A	
55	Three tier Green Belt shall be developed in a time frame of one year with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.	Partially Complied	Partially complied		
56	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	Agreed to Comply	We've made contract with the authorized e-waste recyclers, the electronic waste generated in the industry will be dispose off by the authorized vendor.	N/A	
57	Dust emission from Steel Plant stacks shall be up to 30 mg/Nm <sup>3</sup> .	Agreed to Comply	Agreed, APC devices are designed to keep the emission below 30 mg/Nm <sup>3</sup> . Recent		




			OCEMS data is enclosed.		
58	The activities and the action plan proposed by the project proponent to address the issues raised during public hearing and socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.	Being Complied	Pls refer the uploaded document		
59	The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Agreed to Comply	Pls refer the attached document		
60	Water bodies exists within the study area from the project site. The water bodies shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides. This shall be in addition to the 33% green belt development.	Complied	No water body will be disturbed which exists within the study area from the project site.	N/A	
61	The proposed project shall be designed as "Zero Liquid Discharge" Plant. No waste water will be discharged outside the plant boundary.	Agreed to Comply	Agreed, no waste water discharged outside the plant boundary. ETP cum STP of adequate capacity is installed to treat the effluent and reused 100% in plant operation, for dust suppression and GB	N/A	
62	85-90% of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil or Mixed BF/CO gas/Producer gas.	Complied	Valid consent to operate obtained from West Bengal Pollution Control Board vide CTO no- CO-132105 dated 08.12.2021.	N/A	
63	Basic Oxygen Furnace (BOF) gas shall be cleaned dry.	Agreed to Comply	Noted and will be considered during the design stage.	N/A	
64	PP shall prepare and implement an action plan giving annual improvement targets for resource conservation and environment improvement. This plan shall be monitored by the concerned Regional Office of the MoEF&CC.	Being Complied	The project is still under implementation phase. However 3R's (Reuse, Recycle & Recover Techniques), energy and natural resource conservation	N/A	



			measures adopted by management of OASPL		
65	Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.	Agreed to Comply	Greening and paving being implemented in the plant area to arrest soil erosion and dust pollution.	N/A	
66	Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC. i. Ductile Iron (DI) plant shall have the following provisions: a. Bag filter for Zn coating and Mg converter area. b. Wet scrubbers in paint and bitumen coating area. c. Bag Filter in Cement lining area. d. PTFE dipped bags shall be used in the plant. e. PM emissions from BF in Zinc coating area shall be 5 mg/Nm <sup>3</sup> . f. ETP with recycling facilit	Agreed to Comply	Agreed, the performance test/ stack monitoring is conducted on all pollution control systems on quarterly basis for operational unit by NABL/WBPCB accredited laboratory.		
67	Rain water harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.	Agreed to Comply	Agreed, 02 nos. rain water harvesting being implemented to harvest water. Harvested water is used as industrial make up water and also for dust suppression and green belt development	N/A	
68	Rejects from coal washery shall only be used either in the captive power plant (or) in the Thermal Power Plants meeting emission standards.	Agreed to Comply	Agreed, rejects from coal washery will be used in the captive power plant (or) in the Thermal Power Plants meeting emission standards.	N/A	
69	The project proponent shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Agreed to Comply	We will comply all the environmental protection measures and safeguards proposed in the documents (EIA/EMP) submitted to the Ministry.	N/A	
70	This is an existing Unit. PP shall controlled the air pollutants- PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO emissions in the occupational environment of different process plants, within the	Being Complied	The occupational health surveillance of the workers is being done on a regular basis and records are	N/A	

	permissible exposure limits of as per the Factories Act. PP shall do the monitoring of industrial hygiene survey within occupational environments in order to ensure good environment within the industry, so that workers health is ensured.		maintained as per the Factories Act		
71	Tar shall be recovered from producer gas and shall be sold to registered processors and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.	Agreed to Comply	Agreed, tar recovered from producer gas being sold to registered processors and phenolic water incinerated in After Burn Chamber (ABC) of DRI kiln.	N/A	
72	Shall use ultralow NOx burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH3 monitoring when Ammonia is used.	Agreed to Comply	Sinter plant Coal based CPP is not yet commissioned and during design phase it will be considered.	N/A	
73	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 kw shall be provided.	Being Complied	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 KW being installed in parallel with implementation of the project.	N/A	
74	During operational phase at Captive Power Plant PP shall to measure coal dust exposures and to maintain coal dust exposures within stipulated standards at coal handling areas, conveyer belt and coal crushing area-ball mill. PP shall identify extreme hot areas through heat stress survey as well as noise monitoring within process plants to ensure that workers not exposed above 90 dBA levels as per Factories Act, 1948.	Agreed to Comply	Noted	N/A	
75	PP reported that out of the 145.69 hectare of land, 131.53 hectare of land is already in possession of M/s Orissa Alloy Steel Private Limited (Formerly M/s Rashmi Alloy Steel Private Limited) and for rest of land (14.16 ha) consent from private rayat obtained, however land is not yet acquired. This EC is subject to obtaining complete acquisition of land required for the proposed expansion project.	Agreed to Comply	Noted	N/A	

76	Parking area for trucks/dumpers shall be provided within the steel plant. No truck/dumper shall be parked outside the steel plant premises.	Agreed to Comply	6.04 hectare is allocated for parking area for trucks/dumpers within the steel plant. No truck/dumper being parked outside the steel plant premises.	N/A	
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## 7. General Conditions (Proponent)\_:


S.No	Condition	Self Declaration	Remarks / Reason	Supporting Documents	Observation of IRO
1	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equip	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
2	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Being Complied	The project is still under implementation phase. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
3	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Agreed to Comply	Noted	N/A	
4	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		





	with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs				
5	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
6	Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.	Agreed to Comply	Process stack with DRI Plant, Ferro Plant, Pellet Plant and DIP Finishing line has been installed as per CPCB guidelines for manual monitoring of emissions.	N/A	
7	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
8	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Agreed to Comply	Agreed and is considered in design stage.	N/A	
9	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
10	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.	Agreed to Comply	Agreed and will be complied in parallel with implementation of the project. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
11	The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.	Being Complied	The raw materials are transported in covered dumpers or covered with tarpaulin. Overloading of truck is strictly prohibited.	N/A	






12	Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
13	Land-based APC system shall be installed to control coke pushing emissions.	Agreed to Comply	Land-based APC system is considered during the design stage. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
14	Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.	Agreed to Comply	Agreed CO, HC and O2 in flue gases of the coke oven battery will be monitor to detect combustion efficiency and cross leakages in the combustion chamber.	N/A	
15	Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.	Not Complied	Not Applicable. Proposed coke oven plant is non-recovery type.	N/A	
16	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
17	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.	Agreed to Comply	Noted and is being considered in design stage	N/A	
18	The project proponent shall provide the ETP to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
19	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	Being Complied	As stated in point no-iii, STP of adequate capacity already installed at site for treatment of the waste water and treated water will be 100% recycled/ reused in the process.	N/A	
20	Garland drains and collection pits shall be	Being Complied	The project is under	N/A	

	provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.		construction phase. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
21	Tyre washing facilities shall be provided at the entrance of the plant gates.	Agreed to Comply	Tyre washing facility is being constructed and provided at the entrance of the plant gates.	N/A	
22	Water meters shall be provided at the inlet to all unit processes in the steel plants.	Agreed to Comply	Plant is being operated on treated waste water from ETP/ STP plant. Water meters will be installed at the inlet to all unit process in the steel plant.	N/A	
23	Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
24	Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.	Agreed to Comply	Agreed and will be considered in operation phase of MBF, SMS plant.	N/A	
25	Restrict Gas flaring to < 1%.	Agreed to Comply	Noted. Still MBF plant is not implemented. The subject point will be considered in operation phase of MBF.	N/A	
26	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;	Agreed to Comply	Solar lighting system is installed at Administrative building, common area, Main gates, Parking area in parallel with implementation of the project.	N/A	
27	Provide LED lights in their offices and residential areas.	Being Complied	LED lights in the offices and residential areas are provided and will be provided more in parallel with implementation of the project.	N/A	
28	Ensure installation of regenerative/recuperative type burners on all reheating furnaces.	Agreed to Comply	Noted. Recuperative type energy efficient burner (equivalent to	N/A	

			regenerative type) will be considered at design phase in Reheating furnaces.		
29	An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 Kg/l shall be installed to use slag as river sand in construction industry.	Agreed to Comply	Noted Still MBF plant is not implemented. Blast Furnace slag will be used for cement making in associate company of the Group.	N/A	
30	Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.	Agreed to Comply	Noted and will be considered during the operation phase.	N/A	
31	Used refractories shall be recycled as far as possible.	Agreed to Comply	Agreed Kiln accretion/ broken refractory mass will be used in associate company Sinter Plant, Cement Manufacturing, and land levelling.	N/A	
32	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
33	Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.	Agreed to Comply	Noted and will be considered during design phase of Rolling mill.	N/A	
34	Kitchen waste shall be composted or converted to biogas for further use.	Being Complied	Kitchen wastes are being composted and used in green belt development.	N/A	
35	PP shall undertake the backlog and gap filling of greenbelt work@ 2500plants/hectare in the 2022 monsoon season itself and shall accordingly increase the budget for green belt purpose.	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
36	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.	Complied	Updated details of Carbon Foot Prints and Carbon Sequestration (GHG emissions inventory for the plant) are enclosed		

37	<p>Project proponent shall submit a study report within six months on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable</p>	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
38	<p>Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.</p>	Complied	A copy of updated Emergency preparedness plan, Hazard identification and Risk Assessment (HIRA) report and Disaster Management Plan is enclosed		
39	<p>The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.</p>	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
40	<p>Occupational health surveillance of the workers shall be done on a regular basis and records maintained.</p>	Being Complied	The occupational health surveillance of the workers is being done on a regular basis and records are maintained as per the Factories Act.		
41	<p>The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, and as committee by the PP, the company shall adopt eleven villages namely Bargai, Dangarpara, Amba, Gokulpur, Kantapal, Keshpal, Ajabpur, Barkola, Wallipur, Mohanpur and Risha based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchaya</p>	Agreed to Comply	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
42	<p>The company shall have a well laid down environmental policy duly</p>	Being Complied	Due to space constraint, kindly refer the below	N/A	


	approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareho		attached file COMPLIANCE-DEC-2022.		
43	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Being Complied	A separate Environmental cell both at project and company head quarter is in place.	N/A	
44	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
45	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayat and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied	Copies of EC dated 10.08.2022 submitted to DM, Paschim Medinipur & Barkola Gram Panchayat vide letter dated 10.08.2022. EC copy also uploaded on website of company <a href="http://orissameta">http://orissameta</a>		
46	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
47	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters,	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	


	indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.				
48	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Being Complied	This report is being submitted in compliance to this point. Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
49	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
50	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Being Complied	The company is a private company and no finance is needed from outside. Land development work has been started after getting NOC from WBPCB and production operation started after obtaining valid CTO.	N/A	
51	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.	N/A	
52	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Being Complied	Due to space constraint, kindly refer the below attached file COMPLIANCE-DEC-2022.		
53	The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next	Being Complied	Action Plan on PH issues, and other commitments made in EIA/EMP Report is furnished in Half yearly EC compliance report and is uploaded on website of the company <a href="http://orissametal">http://orissametal</a>	N/A	


	three years, in the company web site for the information to public/public domain.				
54	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed to Comply	Noted	N/A	
55	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	Agreed to Comply	Agreed	N/A	
56	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Agreed to Comply	Noted & Agreed	N/A	
57	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Agreed to Comply	Noted	N/A	
58	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Agreed to Comply	Noted	N/A	
59	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court	Agreed to Comply	Noted	N/A	

	of India / High Courts and any other Court of Law rela				
60	Sensitization of project proponents on implementation of ban on Single Use Plastic (SUP).	Agreed to Comply	In order to create awareness among employees about the harm/ impact of Single Use Plastic on environment , banner and flex are displayed at suitable place like work place, canteen, parking area etc.	N/A	
61	Provide LED lights in their offices and residential areas.	Being Complied	LED lights in the offices and residential areas are provided and will be provided more in parallel with implementation of the project.	N/A	
62	Water meters shall be provided at the inlet to all unit processes in the steel plants.	Being Complied	Plant is being operated on treated waste water from ETP/ STP plant. Water meters will be installed at the inlet to all unit process in the steel plant.	N/A	
63	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	Being Complied	STP cum ETP of adequate capacity already installed at site for treatment of the waste water and treated water is recycled/ reused in the process.	N/A	
64	Restrict Gas flaring to < 1%.	Agreed to Comply	Noted. Still MBF plant is not implemented. The subject point will be considered in operation phase of MBF.	N/A	
65	Used refractories shall be recycled as far as possible.	Being Complied	Kiln accretion/ broken refractory mass will be used in associate company Sinter Plant, Cement Manufacturing, and land levelling.	N/A	
66	Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.	Agreed to Comply	Agreed and will be considered in operation phase of MBF, SMS plant.	N/A	
67	Ensure installation of regenerative/recuperative type burners on all reheating furnaces.	Agreed to Comply	Recuperative type energy efficient burner (equivalent to	N/A	








			regenerative type) will be considered at design phase in Reheating furnaces.		
68	The project proponent shall provide the ETP to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time.	Complied	STP cum ETP of adequate capacity already installed at site for treatment of the waste water and treated water is recycled/ reused in the process.	N/A	
69	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;	Being Complied	Solar lighting system is installed at Administrative building, common area, Main gates, Parking area in parallel with implementation of the project.	N/A	
70	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	Agreed to Comply	MOU for utilization of fly ash in cement plant of associate company (Rashmi Cement Limited (Cement Division), Jhargram & Bansal Cement Pvt. Ltd. Kharagpur) already made and submitted to ministry.	N/A	
71	Tyre washing facilities shall be provided at the entrance of the plant gates.	Complied	Tyre washing facilities shall be provided at the entrance of the plant gates.	N/A	
72	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs	Being Complied	Pls refer the uploaded document		
73	An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0	Agreed to Comply	Still MBF plant is not implemented.	N/A	


	to 1.5 Kg/l shall be installed to use slag as river sand in construction industry.		Blast Furnace slag will be used for cement making in associate company of the Group.		
74	The Environment Clearance (EC) granted to the project/activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Complied	Noted	N/A	
75	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	Being Complied	The project is under construction phase, Garland drains and collection pits are being developed to arrest run off of water. Run off water is stored in existing rain water harvesting pond of sufficient	N/A	
76	Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.	Agreed to Comply	Noted and will be considered during design phase of Rolling mill.	N/A	
77	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/viola of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareho	Being Complied	EHS policy is already provided to the MOEF&CC vide letter no-RASPL/KGP/2020-2021/01 dated 16.06.2020.	N/A	
78	Project proponent shall submit a study report within six months on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon	Being Complied	In order to reduce carbon emission dependency on WHRB based power plant is being in		

	budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable		operation and currently 68 MW WHRB DRI based CPP & 42 MW from Coke Oven Plant Total 110 MW is in operation.		
79	Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.	Agreed to Comply	Noted and will be complied in time bound matter	N/A	
80	Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.	Being Complied	Process stack with DRI Plant, Ferro Plant, Pellet Plant and DIP Finishing line has been installed as per CPCB guidelines for manual monitoring of emissions.	N/A	
81	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied	Advertisement for expansion environment clearance obtained under EIA notification, 2006 in favour of Orissa Alloy Steel Pvt. Ltd. , in two local newspapers	N/A	
82	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	Agreed to Comply	Workers working in high temperature zone are provided with proper PPEs and the duration of their shift in those areas will be max. 4 hrs. or less per day compared to the shift in other areas.	N/A	
83	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Complied	A separate Environmental cell both at project and company head quarter is in place.	N/A	
84	The project proponent shall prepare GHG emissions inventory for the plant and	Complied	he project proponent shall prepare GHG		

	shall submit the programme for reduction of the same including carbon sequestration by trees.		emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.		
85	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayat and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied	Copies of EC dated 10.08.2022 submitted to DM, Paschim Medinipur & Barkola Gram Panchayat vide letter dated 10.08.2022. EC copy also uploaded on the website of the company <a href="http://orissameta">http://orissameta</a>	N/A	
86	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Complied	The last compliance report for the period April 2022 to September 2022 has been submitted to ministry vide letter no. OASPL/ENV COMPL/December 2022 dated 21.11.2022 and also uploaded on the website.	N/A	
87	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Complied	Noted	N/A	
88	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied	The environmental clearance and status of compliance of the stipulated environment clearance conditions, including results of monitored data have been uploaded on the website of the company.	N/A	
89	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Being Complied	The environmental statement for f.y 2021-22 in Form-V is submitted to the WBPCB as prescribed under the Environment (Protection) Rules, on dated 23.09.2022.	N/A	

90	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Being Complied	Electronic display board is installed at plant main gate and online stack emission data and CAAQMS data is also being displayed	N/A	
91	PP shall undertake the backlog and gap filling of greenbelt work@ 2500plants/hectare in the 2022 monsoon season itself and shall accordingly increase the budget for green belt purpose.	Being Complied	Work is on progress	N/A	
92	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Being Complied	We are in the process of complying all the commitments and recommendations made in the EIA/EMP report, 	N/A	
93	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Being Complied	Manual effluent testing and manual monitoring of ground water quality are carried by third party agency (NABL accredited laboratory) at least twice a year (pre and post monsoon).		
94	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Agreed to Comply	Noted	N/A	
95	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	Being Complied	Pls refer the uploaded doc		
96	Land-based APC system shall be installed to control coke pushing emissions.	Being Complied	Noted	N/A	
97	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated	Being Complied	The project is still under the construction phase. The plant is being designed as Zero Liquid Discharge (ZLD) and 100% water is recycled after		

	30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equip		treatment and is used in process, dust suppression & GB		
98	Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Being Complied	Noise level has been monitored at ambient & work zone i.e. Plant Main Gate, Barkola Village, Ferro Plant Area, DRI & Pellet plant Area, Railway siding, Project construction site & Coke Oven Site.		
99	Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).	Agreed to Comply	Facilities for spillage collection coal and coke on wharf of coke oven batteries (chain conveyors, land based industrial vacuum cleaning facility) are made during the design stage of the plant.	N/A	
100	The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain.	Being Complied	Noted	N/A	
101	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/ monitoring reports.	Agreed to Comply	Agreed	N/A	
102	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the	Agreed to Comply	Noted	N/A	

	Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law rela				
103	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Being Complied	Various APCD, sufficient GB and dust supression system is installed.		
104	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Agreed to Comply	Noted	N/A	
105	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, and as committee by the PP, the company shall adopt eleven villages namely Bargai, Dangarpara, Amba, Gokulpur, Kantapal, Keshpal, Ajabpur, Barkola, Wallipur, Mohanpur and Risha based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchaya	Agreed to Comply	Noted and being complied in time bound manner. In financial year 2022-23 Rs. 3, 52, 41,922 is spent under CSR/CER head on various activities in nearby villages to address the issues raised during publ	N/A	
106	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Partially Complied	Will be complied in time bound manner	N/A	
107	Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.	Not Complied	Proposed coke oven plant is non-recovery type.	N/A	
108	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Agreed to Comply	Noted	N/A	
109	The project proponent use leak proof trucks/dumpers carrying coal and other raw	Being Complied	The raw materials are transported in covered dumpers	N/A	

	materials and cover them with tarpaulin.		or covered with tarpaulin. Overloading of truck is strictly prohibited.		
110	Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.	Agreed to Comply	Agreed	N/A	
111	Kitchen waste shall be composted or converted to biogas for further use.	Being Complied	Kitchen wastes are being composted and used in green belt development	N/A	
112	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Agreed to Comply	Noted	N/A	
113	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Agreed to Comply	Agreed	N/A	
114	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed to Comply	Agreed	N/A	
115	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.	Agreed to Comply	Agreed and will be complied in parallel with implementation of the project.	N/A	
116	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Being Complied	Noted	N/A	
117	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.	Agreed to Comply	Will be done in time bound manner	N/A	
118	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred,	Agreed to Comply	Noted	N/A	



	within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.				
119	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	Complied	refer the uploaded document	N/A	
120	Sensitization of project proponents on implementation of ban on Single Use Plastic (SUP).	Complied	Noted	N/A	
<input checked="" type="checkbox"/> I ' ORISSA ALLOY STEEL PVT. LTD. ' hereby give undertaking that the specific / general condition is entered by me is correct.					

**E-Sign**  
**ORISSA ALLOY STEEL PVT. LTD.**  
**Date : 29 May 2023 19:19:53:610**

**\*\*Note : N/A - Not Available**

**PRINT**

# ORISSA ALLOY STEEL PRIVATE LIMITED

CORPORATE ADDRESS: PREMLATA BUILDING, 39 SHAKESPEARE SARANI, 6<sup>TH</sup> FLOOR, ROOM NO. 3 & 4, KOLKATA - 700 017

CIN:U27320WB2019PTC234383

Ref:-OASPL/ENV COMPL/JUNE 2023

Date: 21 .05.2023

To,

Integrated Regional Office,  
Ministry of Environment, Forests & Climate Change  
Kolkata IB – 198, Sector-III, Salt Lake City– 700106  
West Bengal

**Sub. Six Monthly (JUNE-2023) Compliance Report** for Period October 2022 to March 2023 for Expansion of Integrated Steel Plant (1.2 to 2.0 Million TPA Finished Steel) with 270 MW Captive Power Plant

**Ref:- EC Identification no- EC22A008WB114687 issued vide letter no. J-11011/169/2017-IA. II (I) dated 10.08.2022.**

Dear Sir,

With reference to the above, we are here by submitting the six monthly compliance report for period from October 2022 to March 2023 of EC Identification no- EC22A008WB114687 issued vide letter No. J-11011/169/2017-IA. II (I) dated 10.08.2022 for Expansion of Integrated Steel Plant (1.2 To 2.0 Million TPA Finished Steel) with 270 MW Captive Power Plant located at Mouza – Nandarchalk, Bargai, Shyamraipur & Kanjarichak, Village- Gokulpur, P.O.- Shyamraipur, P.S.- Kharagpur (L), Dist. Paschim Medinipur, W.B. by M/s. Orissa Alloy Steel Pvt. Ltd.

Here, we would like to state that conditions mentioned in earlier EC issued vide File No- J-11011/169/2017-IA.II(I); dated on 3<sup>rd</sup> April, 2019, 28<sup>th</sup> January, 2020 and 19<sup>th</sup> March 2021 is already incorporated in latest EC issued on 10<sup>th</sup> August 2022.

We assure that we will comply all the conditions laid down in the consent letter and also abide to follow all the Rules & Regulations.

Hope you will find the same in order.

Thanking you.

Yours Faithfully,

For, M/s Orissa Alloy Steel Private Limited

For ORISSA ALLOY STEEL PRIVATE LIMITED

Authorized Signatory

Director / Authorised Signatory

C.C:-

1. The Member Secretary, West Bengal Pollution Control Board, Parivesh Bhawan, 10A Block – LA, Sector – III, Kolkata – 700 91
2. The Regional Director, Central Pollution Control Board, (Eastern Zonal Office), 'Southend Conclave', 502, 5th Floor 1582, Rajdanga Main Road, Kolkata- 700 107, West Bengal

Enclosures:-

1. Compliance Report for EC;
2. Detail of Carbon Foot Prints and Carbon Sequestration as Annexure-I.
3. OCEMS data as Annexure-II.
4. Stack Monitoring report as Annexure-III.
5. OHS Record as Annexure-IV.
6. CAAQMS report from all the three stations as Annexure-V.
7. Fugitive Emission Monitoring Report as Annexure-VI.
8. Ambient Air Quality Monitoring Report as Annexure-VII.
9. Effluent Water quality report as Annexure-VIII.
10. Ground Water analysis report as Annexure-IX.
11. Ambient & Source Noise Monitoring Report as Annexure-X.
12. TCLP Test report as Annexure-XI.

SIX MONTHLY COMPLIANCE REPORT  
(JUNE-2023)  
FOR

**Project Name-**

**Expansion of Integrated Steel Plant (1.2 to  
2.0 Million TPA Finished Steel)  
With 270 MW CPP**

**EC Identification no- EC22A008WB114687 issued vide  
letter No. J-11011/169/2017-IA. II (I) dated  
10.08.2022**

**Location: Mouza- Nandarchalk, Bargai, Shyamraipur &  
Kanjarchak, Village-Gokulpur, P.O.- Shyamraipur, P.S.-  
Kharagpur(L), Dist. Paschim Medinipur, West Bengal**

For ORISSA ALLOY STEEL PRIVATE LIMITED  
  
Director / Authorised Signatory

**M/s ORISSA ALLOY STEEL PRIVATE LIMITED**

**1, GRASTIN PLACE, ORBIT HOUSE  
3<sup>rd</sup> FLOOR, ROOM NO- 3B KOLKATA – 700 001  
WEST BENGAL**

**Ph No.-033 – 22438518**

**Email id- orissaalloysteelprivateltd@gmail.com**

Clearance Letter/s No. and date: - EC Identification no- EC22A008WB114687

F. No. J-11011/169/2017-IA.II (I); Dated 10<sup>th</sup> August 2022

Period of Compliance Report: - October 2022 to March 2023

A	Specific Conditions w.r.t to EC dated 10.08.2022	Compliance Status
i.	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Agreed
ii.	The project proponent shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Agreed  We will comply all the environmental protection measures and safeguards proposed in the documents (EIA/EMP) submitted to the Ministry.
iii.	The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Noted  The project is still in implementation phase. The flue gas generated from Coke Oven Plant, DRI plant is utilized in power generation. In order to reduce carbon emission dependency on WHRB based power plant is being practiced and currently 68 MW WHRB DRI based CPP & 42 MW from Coke Oven gas, in total 110 MW is in operation and in future capacity will be increased to 170 MW.  Plantation is a suitable method to sequester carbon and 33% of the plant area being developed under greenbelt. An area of around 45.51 hectare has already been covered under greenbelt @ 2500 trees per hectare (1, 13,769 nos.) till March 2023. Additional green belt development being done in nearby area by planting 50,000 nos. of trees. In addition to this 6000 Nos. of saplings on occasion of environment day (5 <sup>th</sup> June 2022) were distributed to nearby school children/ villagers for green belt development.  Details of Carbon Sequestration is attached as <b>Annexure- I</b> .
iv.	The activities and the action plan proposed by the project proponent to address the issues raised during public hearing and socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.	Noted and will be complied in time bound manner. In financial year 2022-23 Rs. 3, 52, 41,922 is spent under CSR/CER head on various activities in nearby villages to address the issues raised during public hearing and socio-economic issues in the study area.

For ORISSA ALLOY STEEL PRIVATE LIMITED

Director / Authorised Signatory




v. Water bodies exists within the No water body will be disturbed which exists within the study area from the project site.

	study area from the project site. The water bodies shall not be disturbed. Landscaping shall be done on both embankments, with green belt covering 10 m land on both sides. This shall be in addition to the 33% green belt development.																																																														
vi.	Tailings from Iron Ore washing plant shall be dewatered in filter press and no slime /tailing pond shall be permitted.	Noted Current wet grinding is being practiced and no tailing is being generated.																																																													
vii.	Iron ore slimes shall be dewatered and disposed dry. The recovered water shall be reused in the process. Ponding of tailings shall not be permitted. Maximum storage for tailings in the plant shall not exceed 90 days.	Agreed. The recovered water is reused and return back to the process																																																													
viii.	Rejects from coal washery shall only be used either in the captive power plant (or) in the Thermal Power Plants meeting emission standards.	Agreed. rejects from coal washery will be used in the captive power plant (or) in the Thermal Power Plants meeting emission standards.																																																													
ix.	Solid waste utilization. <ul style="list-style-type: none"> <li>PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making.</li> <li>PP shall recycle/reuse 100 % solid waste generated in the plant.</li> <li>Used refractories shall be recycled as far as possible.</li> </ul>	Noted and being complied in a time bound manner. <table border="1" data-bbox="592 982 1559 1894"> <thead> <tr> <th>Sl. No.</th> <th>Type of Waste</th> <th>Source</th> <th>Total (TPA)</th> <th>Mode of Treatment / Disposal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Slag</td> <td rowspan="2">MBF</td> <td>2,46,000</td> <td rowspan="2">Used for Cement Making &amp; in Sinter plant</td> </tr> <tr> <td></td> <td>Sludge</td> <td>3,16,035</td> </tr> <tr> <td>2</td> <td>Dolo Char</td> <td>DRI Plant</td> <td>5,16,400</td> <td>100% used in CFBC Boilers.</td> </tr> <tr> <td>3</td> <td>Slag</td> <td rowspan="2">SMS (IF)</td> <td>1,88,850</td> <td rowspan="2">Used for Road construction/ Land levelling purpose, Paver Block Making after recovering metal from Slag Crushing unit;</td> </tr> <tr> <td></td> <td>Scale</td> <td>16,900</td> </tr> <tr> <td>4</td> <td>Slag</td> <td>Ferro Alloys Plant</td> <td>1,17,000</td> <td> <ul style="list-style-type: none"> <li>Slag generated during Ferro Manganese production will be used as a raw material for Silico Manganese production.</li> <li>Slag generated during Silico Manganese production will be used for road construction/land filling.</li> <li>After maximum recovery of Chrome from Ferro chrome slag it will undergo TCPL Test and then it will be used in green concreting.</li> </ul> </td> </tr> <tr> <td>5</td> <td>Core Sand and Slag</td> <td>DIP</td> <td>4,777</td> <td>Used for Road construction/ Land levelling purpose</td> </tr> <tr> <td>6</td> <td>Cement Slurry</td> <td>DIP</td> <td>500</td> <td>Used for Brick making and also in Cement Plant</td> </tr> <tr> <td>7</td> <td>Bottom Ash</td> <td>CPP</td> <td>1,47,700</td> <td>Used for Road construction/ Land levelling purpose</td> </tr> <tr> <td>8</td> <td>Dust</td> <td>APC Devices</td> <td>8,95,790</td> <td>Used in Sinter Plant and Brick Manufacturing, Pelletisation mix</td> </tr> <tr> <td>9</td> <td>Kiln Accretion</td> <td>DRI Plant</td> <td>14,500</td> <td>Road Construction</td> </tr> <tr> <td>10</td> <td>Tar Sludge</td> <td>Producer gas</td> <td>1,500</td> <td>Sold to WBPCB authorized vendor</td> </tr> </tbody> </table>	Sl. No.	Type of Waste	Source	Total (TPA)	Mode of Treatment / Disposal	1	Slag	MBF	2,46,000	Used for Cement Making & in Sinter plant		Sludge	3,16,035	2	Dolo Char	DRI Plant	5,16,400	100% used in CFBC Boilers.	3	Slag	SMS (IF)	1,88,850	Used for Road construction/ Land levelling purpose, Paver Block Making after recovering metal from Slag Crushing unit;		Scale	16,900	4	Slag	Ferro Alloys Plant	1,17,000	<ul style="list-style-type: none"> <li>Slag generated during Ferro Manganese production will be used as a raw material for Silico Manganese production.</li> <li>Slag generated during Silico Manganese production will be used for road construction/land filling.</li> <li>After maximum recovery of Chrome from Ferro chrome slag it will undergo TCPL Test and then it will be used in green concreting.</li> </ul>	5	Core Sand and Slag	DIP	4,777	Used for Road construction/ Land levelling purpose	6	Cement Slurry	DIP	500	Used for Brick making and also in Cement Plant	7	Bottom Ash	CPP	1,47,700	Used for Road construction/ Land levelling purpose	8	Dust	APC Devices	8,95,790	Used in Sinter Plant and Brick Manufacturing, Pelletisation mix	9	Kiln Accretion	DRI Plant	14,500	Road Construction	10	Tar Sludge	Producer gas	1,500	Sold to WBPCB authorized vendor
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For ORISSA ALLOY STEEL PRIVATE LIMITED

  
Director / Authorised Signatory

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x.	Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.	Noted and will be complied prior to the commencement of the plant operation activity.																																											
xi.	Tar shall be recovered from producer gas and shall be sold to registered processors and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.	Agreed, tar recovered from producer gas being sold to registered processors and phenolic water incinerated in After Burn Chamber (ABC) of DRI kilns.																																											
xii.	Coke oven plant shall be equipped with modified wet quenching system.	<p>Agreed, coke oven plant equipped with modified wet quenching system and water is recycled post primary settlement.</p> 																																											
xiii.	Coke Oven Gas shall be desulfurized.	Noted and being complied.																																											
xiv.	Blast Furnaces shall be equipped with Top Recovery Turbine	Noted and will be considered during the design stage.																																											

For ORISSA ALLOY STEEL PRIVATE LIMITED  
  
 Director / Authorized Signatory


	(capacity more than 550 m <sup>3</sup> ), dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.	
xv.	Secondary fume extraction system shall be installed on converters of Steel Melting Shop.	Noted and will be considered during the design stage.
xvi.	Basic Oxygen Furnace (BOF) gas shall be cleaned dry.	Noted and will be considered during the design stage.
xvii.	Electric Arc Furnace shall be closed type with 4 <sup>th</sup> hole extraction system.	Not applicable as no Electric Arc Furnace is being proposed.
xviii.	85-90% of billets shall be rolled directly in hot stage. RHF shall operate using only Light Diesel Oil or Mixed BF/CO gas/Producer gas.	Agreed and will be complied. Rolling mill is still not commissioned.
xix.	Cold Rolling Mill (CRM), color coating and galvanizing plants shall have CETP to treat and recycle the treated water from CRM complex. Sludge generated at CRM ETP shall be sent to TSDF.	Not applicable as Cold Rolling Mill (CRM), color coating and galvanizing plants is not proposed.
xx.	Dust emission from Steel Plant stacks shall be up to 30 mg/Nm <sup>3</sup> .	Agreed. APC devices are designed to keep the emission below 30 mg/Nm <sup>3</sup> . Recent OCEMS data is enclosed as <b>Annexure-II</b> .
xxi.	The net water requirement of the ISP after implementation of proposed expansion project would be around 491.67 m <sup>3</sup> /hr (11,800 KLD) which will be obtained from Kharagpur Municipality and Treated waste water. Bore well supply as envisaged earlier will be completely replaced by surface water/ treated waste water in the present proposal for operation phase of the project. No ground water extraction is permitted.	Noted and being complied
xxii.	Three tier Green Belt shall be developed in a time frame of one year with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.	An area of around 45.51 hectare has already been covered under greenbelt @ 2500 trees per hectare (1, 13,769 nos.) till March 2023. Additional green belt development being done in nearby area by planting 50,000 nos. of trees. In addition to this 6000 Nos. of saplings on occasion of environment day (5 <sup>th</sup> June 2022) were distributed to nearby school children/ villagers for green belt development.  Balance 2.56 hectare of land will covered under greenbelt @ 2500 trees per hectare (6,431 nos.) by March 2024.  Survival rate of green belt developed bing monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.

For ORISSA ALLOY STEEL PRIVATE LIMITED


Director / Authorised Signatory



			
			
			
xxiii.	<p>Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.</p>	<p>Greening and paving being implemented in the plant area to arrest soil erosion and dust pollution.</p>	
xxiv.	<p>Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&amp;CC.</p> <p>i. Ductile Iron (DI) plant shall have the following provisions:</p> <p>a. Bag filter for Zn coating and</p>	<p>Agreed, the performance test/ stack monitoring is conducted on all pollution control systems on quarterly basis for operational unit by NABL/WBPCB accredited laboratory. Stack Monitoring report is enclosed as <b>Annexure-III</b>.</p> <p>Ductile Iron Pipe finishing line is equipped with Bag filter.</p>	

	<p>Mg converter area.</p> <p>b. Wet scrubbers in paint and bitumen coating area.</p> <p>c. Bag Filter in Cement lining area.</p> <p>d. PTFE dipped bags shall be used in the plant.</p> <p>e. PM emissions from BF in Zinc coating area shall be 5 mg/Nm<sup>3</sup>.</p> <p>f. ETP with recycling facility shall be included.</p>	
xxv.	Rain water harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.	Agreed. 02 nos. rain water harvesting being implemented to harvest water. Harvested water is used as industrial make up water and also for dust suppression and green belt development.
xxvi.	The proposed project shall be designed as "Zero Liquid Discharge" Plant. No waste water will be discharged outside the plant boundary.	Agreed. no waste water discharged outside the plant boundary. ETP cum STP of adequate capacity is installed to treat the effluent and reused 100% in plant operation, for dust suppression and green belt development.
xxvii.	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	We've made contract with the authorized e-waste recyclers, the electronic waste generated in the industry will be dispose off by the authorized vendor.
xxviii.	Railway siding shall be completed by June 2022, as committed by the PP.	Valid consent to operate obtained from West Bengal Pollution Control Board vide CTO no- CO-132105 dated 08.12.2021.
		
xxix.	PP shall prepare and implement an action plan giving annual improvement targets for resource conservation and environment improvement. This plan shall be monitored by the concerned Regional Office of the MoEF&CC.	<p>Being Complied.</p> <p>The project is still under implementation phase. However 3R's (Reuse, Recycle &amp; Recover Techniques), energy and natural resource conservation measures adopted by management of OASPL are as:</p> <p>❖ <b>Reuse:</b></p> <ol style="list-style-type: none"> <li>Dust collected from Pellet plant had been/ will be reused in the pellet process.</li> <li>Char &amp; Dolochar from DRI Plant being used in CFBC Boilers for power generation resulting reduction in non-renewable source i.e. coal.</li> <li>Slag generated during Ferro Manganese production had been/ will be used as a raw material for Silico Manganese production.</li> <li>Slag generated during Silico Manganese production had been/ will be used for road construction / land filling.</li> <li>Magnesium dust from DI pipe plant had been/ will be used in Sinter Plant of associate company.</li> <li>Cement slurry from DI pipe plant will be used Brick making and also in</li> </ol>

		<p>associate company of Cement Plant.</p> <p>g) Tar Sludge from Producer gas plant will be sold to SPCB authorized vendor.</p> <p>❖ <b>Recycle:</b></p> <p>a) Recycling or usage of recycled water at every stage of the process.</p> <p>b) The process water had been/ will be treated in ETP and recycled in the process and within plant premises.</p> <p>c) Domestic water had been/ will be treated in STP and will be used for dust suppression &amp; green belt development.</p> <p>d) Phenolic water from producer gas plant had been/ will be used in ABC of DRI Kiln.</p> <p>❖ <b>Recovery:</b></p> <p>a) Waste Heat Recovery boiler with DRI and Coke oven plant had been/ will be installed to capture sensible heat from waste heat.</p> <p>b) Partial Air cooled type cooling system had been/ will be installed with power plant resulting reduction in water consumption.</p> <p>❖ <b>Energy Conservation:</b></p> <p>a) Power Generation with WHRB (Without using fossil fuel) -68 MW from 4 x 600 TPD DRI Kiln based WHRB</p> <p>b) Power Generation with WHRB (Without using fossil fuel) in coke oven plant-WHRB attached with coke oven will generate 42 MW of electricity.</p> <p>c) Use of better quality raw material in DRI &amp; BF resulting reduction in specific energy conservation.</p> <p>d) Use of energy efficient electric motors complying IEEE3 Standards.</p> <p>e) Use of highly efficient VFD, minimizing idle running of machines.</p> <p>f) Optimizing loads and periodic preventive maintenance &amp; lubrication</p> <p>g) Prevention of leakages of compressed air.</p> <p>h) Optimized compressed air pressure.</p> <p>i) Periodic energy audits.</p> <p>j) Training, awareness and motivational programmes.</p> <p>k) Maximum utilization of renewable energy resources.</p> <p>l) Installation of energy efficient lightings.</p> <p>m) Use of energy saving light fittings.</p> <p>n) Installation of LED/CFL lighting.</p> <p>❖ <b>Natural Resource Conservation:</b></p> <p>a) Water had been/ will be conserved by practicing rainwater harvesting and maximum recycling within the plant premises.</p> <p>b) Waste water after treatment had been/ will be used after treatment in the plant.</p> <p>c) Solar street with LED is installed in common area and parking etc.</p>
xxx.	The heat rate of coal based power plant as specified by Central Electricity Authority shall be maintained and monitored.	Noted The heat rate of Coal based power plant as specified by central Electricity Authority shall be considered during the design state of the plant.
xxxi.	Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 kw shall be provided.	Being complied with Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 KW being installed in parallel with implementation of the project.
xxxii.	PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.	Being complied with and will be complied in parallel with implementation of the project. Adequate capacity of Bag Filter has been installed in Ferro alloy plant, secondary unit of DRI plant, DIP finishing line and in Pellet Plant.

		
xxxiii.	Shall use ultralow NO <sub>x</sub> burner with three stage combustion, flue gas recirculation and auto combustion control system. Shall use Post combustion control system (SCR/SCNR process) with NH <sub>3</sub> monitoring when Ammonia is used.	<p style="text-align: center;">Will be complied</p> <p>Sinter plant Coal based CPP is not yet commissioned and during design phase it will be considered.</p>
xxxiv.	Parking area for trucks/dumpers shall be provided within the steel plant. No truck/dumper shall be parked outside the steel plant premises.	<p style="text-align: center;">Agreed</p> <p>6.04 hectare is allocated for parking area for trucks/dumpers within the steel plant. No truck/dumper being parked outside the steel plant premises.</p>
xxxv.	PP reported that out of the 145.69 hectare of land, 131.53 hectare of land is already in possession of M/s Orissa Alloy Steel Private Limited (Formerly M/s Rashmi Alloy Steel Private Limited) and for rest of land (14.16 ha) consent from private rayat obtained, however land is not yet acquired. This EC is subject to obtaining complete acquisition of land required for the proposed expansion project.	Noted
xxxvi.	This is an existing Unit. PP shall controlled the air pollutants- PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO emissions in the occupational environment of different process plants, within the permissible exposure limits of as per the Factories Act. PP shall do the monitoring of industrial hygiene survey within occupational environments in order to ensure good environment within the industry, so that workers health is ensured.	<p style="text-align: center;">Being Complied</p> <p>The occupational health surveillance of the workers is being done on a regular basis and records are maintained as per the Factories Act.</p> <p>The DHS Record is attached as <b>Annexure- IV</b>.</p>
xxxvii.	During operational phase at Captive Power Plant PP shall to measure coal dust exposures and	Noted

	to maintain coal dust exposures within stipulated standards at coal handling areas, conveyer belt and coal crushing area-ball mill. PP shall identify extreme hot areas through heat stress survey as well as noise monitoring within process plants to ensure that workers not exposed above 90 dBA levels as per Factories Act, 1948.																					
xxxviii.	A proper action plan must be implemented to dispose of the electronic waste generated in the industry.	We have made contract with the authorized e-waste recyclers, the electronic waste generated in the industry being dispose of by the authorized vendor.																				
<b>B</b>	<b>General Conditions w.r.t to EC dated 10.08.2022</b>	<b>Compliance Status</b>																				
<b>I</b>	<b>Statutory compliance:</b>																					
i.	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Noted																				
<b>II.</b>	<b>Air quality monitoring and preservation:</b>																					
i.	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	<p>After taking into consideration the interest and financial share cost from associate company of the Group, for monitoring the Ambient Air quality around industrial units of the Group, 04 nos. Continuous Ambient Air Quality Monitoring Station (USEPA/ MCERT approved) is installed covering upwind, downwind and crosswind directions after getting site approval from WBPCB and data is transferred to SPCB &amp; CPCB server.</p> <p>Online continuous emission Monitoring system (OCEMS) has been installed with stack connected with Ferro alloy plant, DRI plant and Pellet plant as per CPCB guideline.</p> <p>The CEMS and CAAQMS are connected to WBPCB and CPCB online servers and calibrate from time to time according to equipment supplier specification.</p> <p>Ambient air monitored at the four locations viz. 1) Near Plant Main Gate, 2) Bargai Village, 3) Rajogram Village, 4) Walipur Village by third party monitoring agency M/s Quallssure Laboratory Services, Kolkata which is NABL accredited laboratory. As per monitoring reports of month March 2023, emission levels are as follows:</p> <table border="1" data-bbox="657 1732 1494 1892"> <thead> <tr> <th>Parameter</th> <th>Near Plant Main Gate</th> <th>Bargai Village</th> <th>Rajogram Village</th> <th>Walipur Village</th> </tr> </thead> <tbody> <tr> <td>PM<sub>10</sub> (µg/m<sup>3</sup>)</td> <td>30</td> <td>68</td> <td>75</td> <td>76</td> </tr> <tr> <td>PM<sub>2.5</sub> (µg/m<sup>3</sup>)</td> <td>43</td> <td>40</td> <td>39</td> <td>35</td> </tr> <tr> <td>SO<sub>2</sub> (µg/m<sup>3</sup>)</td> <td>8.9</td> <td>6.9</td> <td>7.1</td> <td>7.5</td> </tr> </tbody> </table>	Parameter	Near Plant Main Gate	Bargai Village	Rajogram Village	Walipur Village	PM <sub>10</sub> (µg/m <sup>3</sup> )	30	68	75	76	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	43	40	39	35	SO <sub>2</sub> (µg/m <sup>3</sup> )	8.9	6.9	7.1	7.5
Parameter	Near Plant Main Gate	Bargai Village	Rajogram Village	Walipur Village																		
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NO <sub>2</sub> (µg/m <sup>3</sup> )	33.1	28.7	29.4	31.6
CO (µg/m <sup>3</sup> )	1007	744	881	892

CAAQMS report and Stack report data are attached in as **Annexure No. - V & Annexure No.- III.**

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

Being Complied

Fugitive Emissions have been monitored at the Eight locations viz., 1) DRI & CPP Plant Area, 2) Pellet Plant Area, 3) Ferro Alloy Plant Area, 4) Raw Material Yard, 5) Railway Siding, 6) DIP Plant Area, 7) SMS Area, 8) Coke Oven Site area by third party monitoring agency M/s Qualissure Laboratory Services, Kolkata which is NABL accredited laboratory. As per monitoring reports, emission levels are as follows:

Parameter	DRI Plant Area	Pellet Plant Area	Ferro Alloy Plant	Raw Material Yard	Railway Siding	DIP Plant Area	SMS Area	Coke Oven Site
SPM (µg/m <sup>3</sup> )	326	263	312	526	249	223	220	258

Fugitive emission report is attached as **Annexure-VI.**

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

Process stack with DRI Plant, Ferro Plant, Pellet Plant and DIP Finishing line has been installed as per CPCB guidelines for manual monitoring of emissions.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

Being complied

3 X 9 MVA Ferro Alloy Plants; 04 X 600 TPD, DRI plant with 68 MW WHRB based CPP, 0.2 MTPA DIP finishing line, 3.0 MTPA Pellet plant with matching beneficiation and 20 X 7500 N.Cu.M PGP, 0.297 MTPA SMS with matching CCM, along with 0.55 MTPA coke oven plant with 42 MW WHRB based CPP, is having valid consent to operate from WBPCB. The detail of APC devices unit wise are as:

Sl. No.	Name of the Unit	Capacity	APC Device	Stack Height (m)
1	DRI	2 x 600 TPD 2 x 600 TPD	ABC, WHRB and ESP for each Kiln, ID fan	01 No., 25 m (Common) 01 No., 25 m (Common)
2	DRI Kiln Cooler Discharge	01 No. (for 2 x 600 TPD) 01 No. (for 2 x 600 TPD)	Providing De dusting system which will be connected to Bag Filter.	01 No., 30 m (Common)
3	WHRB with DRI kiln	4 x 60 TPH Boiler with 4 x 600 TPD Kila	Not Required (Common with ESP of DRI Kila 4 x 600 TPD)	Not Required (In line with DRI Kila 4 x 600 TPD)
4	Coal Circuit (Crusher + Inceptor) with Coal Dryer	04 Nos.	2 nos. Bag Filter, ID fan	02 Nos., 30 m (Common with 02 Nos. of Coal Circuit)
5	Intermediate Bin/ Transfer House	02 Nos.	2 nos. Bag Filter, ID fan	01 Nos., 30 m (Common)
6	Raw material Stock House with 3nos. Ore Crusher	02 Nos.	2 nos. Bag Filter, ID fan	02 Nos., 30 m (Individual)
7	Product Separator Building	02 Nos.	2 nos. Bag Filter, ID fan	01 No., 30 m (Common)
8	Product Storage House	02 No.	2 nos. Bag Filter, ID fan	01 No., 28 m (Common)
9	Steel Making Facilities, CCM	3 x 20 TPF + 1 X 50 T LRF	hood, Spoke, Armator, 3.0 For (Individual); 01 no. Bag Filter	01 no., 30 m (Common)
10	SAF (Ferro Alloy Plant)	2 x 9 MVA 1 x 9 MVA	01 no. Bag House, 01 no. Bag House	01 No., 35m (Common) 01 No., 35m
11	Non-recovery type Coke Oven Plant	2 x 0.275 MTPA	04 Nos. WHRB with 04 Nos. Bag Filter with coke oven battery (01 no. WHRB with bag filter with 02 Nos. battery)	04 Nos., 50 m (01 no. stack common with 02 nos. battery)-8 nos. pass stack A
12	WHRB with Non-Recovery Coke Oven Plant	02 x 75 + 02 x 25 TPH (42 MW)	Not Required (Common with Bag Filter of Coke oven battery)	02 nos., 50 m process stacks connected with 04 nos. WHRB (1 stack common with 02 nos. WHRB connected with 04 nos. batteries)
13	Coke Pushing/ Charging car	01 No.	Bag Filter	01 no. Vent (Height from the Platform-7.1 m)
14	I/O Beneficiation Plant	Matching with pellet plant	Not Required	Not Required
15	Pellet Plant	1 x 2.4 MTPA	ESP with ID fan	1 No., 110 m
16	Pellet Plant Cooler Discharge	01 No. with 2.4 MTPA	Individual Bag Filter	01 No., 30 m
17	Producer gas plant	20 x 7500 Nm <sup>3</sup> /hr	Inbuilt Electrostatic Tar Separator with each R. Gas plant	Not Required

Action taken by company for maintain good housekeeping and controlling emission are:

For DRISSA ALLOY STEEL PRIVATE LIMITED

  
Director / Authorised Signatory

- ❖ Dust suppression systems are/ will be provided at raw material handling, product handling, transfer points, loading and unloading points to control fugitive emission.
- ❖ Covered shed and conveyor belts have been provided at various points such as material transfer points, and other enclosed raw material handling areas for control of fugitive emissions.
- ❖ Bag houses are designed to meet the standard below 30 mg/Nm<sup>3</sup>.
- ❖ 03 nos. of dedicated Street sweeper machine and 04 nos. movable water tankers are being used.
- ❖ Dedicated 04 No water spraying tankers are in use.
- ❖ 02 no fixed Water mist fog system has been installed and in used in order to reduce the fugitive dust.
- ❖ 01 no movable Water mist fog system has been installed and in used in order to reduce the fugitive dust.
- ❖ We have provided GPS enabled tractor mounted water tanker for suppression of dust at nearby villages.
- ❖ Water sprinkler/ water gun along the roadside is being installed to reduce fugitive emission.
- ❖ Speed limits are enforced for movement of vehicles at the site as per the factory limits
- ❖ Concreting of internal road with proper drainage system to reduce vehicular emission is going on in parallel with implementation of the project.
- ❖ Trucks movement for transporting raw materials & solid waste in fully covered way to avoid dust pollution.
- ❖ Dedicated truck parking facility.
- ❖ Engaged more numbers of dedicated Housekeeping team with proper training and equipment.
- ❖ Regular painting and cleaning / white washing of wall.
- ❖ Scraps are stored in proper demarcated area with proper marking.
- ❖ Hazardous wastes are stored in dedicated HZW store.
- ❖ Regular cleaning of drain systems pre & post monsoon is done.
- ❖ Green belt with density of 2500 per hectare along and around boundary of the site towards the highway is being developed.

Also to ensure Ambient Air Quality is meeting the prescribed standard AAQ & Fugitive Monitoring is being done on regular basis by NABL/ MoEF accredited laboratory.





Latest Ambient Air Quality Monitoring Analysis reports carried by NABL/MoEF accredited lab are attached in as **Annexure No. -VII**.

v.	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Agreed and is considered in design stage.
vi.	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	<ul style="list-style-type: none"> <li>❖ 03 nos. of dedicated Street sweeper machine and 04 nos. movable water tankers are being used.</li> <li>❖ Dedicated 04 No water spraying tankers are in use.</li> <li>❖ 02 no fixed Water mist fog system has been installed and in used in order to reduce the fugitive dust.</li> <li>❖ 01 no movable Water mist system has been installed and in used in order to reduce the fugitive dust.</li> </ul>
vii.	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the	<p>Agreed and will be complied in parallel with implementation of the project.</p> <p>For valid CTO obtained units following measures are being adopted:</p> <ul style="list-style-type: none"> <li>▪ Iron ore fines are feed into pellet plant for making pellet.</li> <li>▪ APC fines from DRI plant is used for brick making;</li> </ul>

For ORISSA ALLOY STEEL PRIVATE LIMITED  
  
 Director / Authorised Signatory



process after briquetting/ agglomeration.

- Pellet fines are recycled back to the process.
- SMS slag after metal recovery is used in brick/paver block making or land levelling.
- Coke fines are used in sinter plant of associate company of the Group.


TCLP Test report is enclosed as Annexure-XI. The detail Solid Waste Management plan submitted to ministry are as:

Sl. No.	Type	Utilization/ Remark
1	Slag from MBF	To be used for Cement Making.
2	Dolo Char from DRI Plant	To be used in proposed CFBC Boilers.
3	Slag/ Scale from SMS (IF )	To be used for Road construction/ Land filling purpose. Paver Block Making after recovering metal from Slag Crushing unit
4	Slag from Ferro Alloys Plant	<ul style="list-style-type: none"> <li>• Slag generated during Ferro Manganese production will be used as a raw material for Silico Manganese production.</li> <li>• Slag generated during Silico Manganese production will be used for road construction/land filling.</li> <li>• After maximum recovery of Chrome, Ferro chrome slag after undergoing TCPL Test will be used in green concreting.</li> </ul>
5	Core Sand And Slag from DIP.	To be used for Road construction/ Land levelling purpose
6	Cement Slurry.	To be used for Brick making and also in Captive Cement Plant
7	Bottom Ash.	To be used for Road construction/ Land levelling purpose
8	Dust from APC Devices.	Used in Sinter Plant and also APC dust from DRI ESP will be used for Brick Manufacturing
9	Kiln Accretion	Road Construction
10	Tar Sludge from Producer gas plant	To be sold to WBPCB authorized vendor
11	Miss Roll/End Cuts	To be used in Proposed S.M.S Plant.
12	Fly Ash.	To be used for Brick making and also in Captive Cement Plant
13	Low Grade Fe from I/O Beneficiation plant	Use for Brick manufacturing/ Paver block making, aggregate in concrete, road construction
14	Zinc Ash/ Dross.	To be sold to WBPCB Authorized Vendors
15	Sludge from ETP	Sent to (CHWTSDF)
16	Molding Line from DIP Fitting & Accessories Unit	To be used for Road construction/ Land levelling purpose
17	Shot Blasting from DIP Fitting & Accessories Unit	To be used for Road construction/ Land levelling purpose
18	Fettling & Grinding from DIP Fitting & Accessories Unit	To be used for Road construction/ Land levelling purpose


viii. The project proponent use leak proof trucks/dumpers carrying

Being complied

	coal and other raw materials and cover them with tarpaulin.	The raw materials are transported in covered dumpers or covered with tarpaulin. Overloading of truck is strictly prohibited.
ix.	Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).	Noted For ORISSA ALLOY STEEL PRIVATE LIMITED Facilities for spillage collection coal and coke on wharf of coke oven batteries (chain conveyors, land based industrial vacuum cleaning facility) are made during the design stage of the plant. Bag Filter is attached with sufficient vent from platform for Coke Pushing/ Charging car.
x.	Land-based APC system shall be installed to control coke pushing emissions.	Land-based APC system is considered during the design stage. The details are as: a) A large gas suction hood fixed on the coke guide car and moving with the coke guide, sending fumes to the coke side dust-collecting duct; b) The dust collection duct; and c) The final equipment for smoke purification on the ground (ground piping, accumulator cooler, pulse bag dust collector, silencer, ventilation unit, stack, etc.). d) Dust extraction system with bag filters is provided at different places. Emission is maintained below 30 mg/Nm <sup>3</sup>
xi.	Monitor CO, HC and O <sub>2</sub> in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.	Agreed CO, HC and O <sub>2</sub> in flue gases of the coke oven battery will be monitor to detect combustion efficiency and cross leakages in the combustion chamber.
xii.	Vapor absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.	Not Applicable. Proposed coke oven plant is non-recovery type.
xiii.	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Raw materials are currently stored under covered shed or covered with tarpaulin. Water spraying is done on regular basis by movable water mist fog canon system to prevent the diffusion of particles in the atmosphere
xiv.	Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.	Noted and is being considered in design stage
<b>III.</b>	<b>Water quality monitoring and preservation:</b>	
i.	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31 <sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30 <sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7 <sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time	Agreed The project is still under the construction phase. The plant is being designed as Zero Liquid Discharge (ZLD) and 100% water is recycled after treatment and is used in process, dust suppression & green belt development. Effluent water is being monitored by agency M/s Qualissure Laboratory Service, Kolkata which is NABL accredited laboratory. Effluent water quality report done by NABL accredited lab is attached as Annexure-VIII.

	according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	
ii.	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	<p style="text-align: center;">Being Complied</p> <p>The project is still under implementation phase.</p> <p>Manual effluent testing and manual monitoring of ground water quality are carried by third party agency (NABL accredited laboratory) at least twice a year (pre and post monsoon).</p> <p>Latest Ground water analysis report is attached as <b>Annexure- IX</b>.</p>
iii.	The project proponent shall provide the ETP to meet the standards prescribed in G.S.R 277 (E) dated 31 <sup>st</sup> March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30 <sup>th</sup> May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7 <sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time.	<p>STP cum ETP of adequate capacity already installed at site for treatment of the waste water and treated water is recycled/ reused in the process.</p> 
iv.	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	<p style="text-align: center;">Being Complied.</p> <p>As stated in <b>point no-iii</b>, STP of adequate capacity already installed at site for treatment of the waste water and treated water will be 100% recycled/ reused in the process.</p>
v.	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	<p>Being Complied</p> <p>The project is under construction phase. Garland drains and collection pits are being developed to arrest run off of water. Run off water is stored in existing rain water harvesting pond of sufficient capacity.</p> 
vi.	Tyre washing facilities shall be provided at the entrance of the plant gates.	Tyre washing facility is constructed and provided at the entrance of the plant gates.
vii.	Water meters shall be provided at the inlet to all unit processes in the steel plants.	Plant is being operated on treated waste water from ETP/ STP plant. Water meters will be installed at the inlet to all unit process in the steel plant.
<b>IV.</b>	<b>Noise monitoring and prevention</b>	
i.	Noise pollution shall be monitored as per the prescribed Noise	<p style="text-align: center;">Being Complied</p> <p>Noise level has been monitored at ambient &amp; work zone i.e. Plant Main Gate, Barkola</p>

FOR ORISSA ALLOY STEEL PRIVATE LIMITED


  
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	Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Village, Ferro Plant Area, DRI & Pellet plant Area, Railway siding, Project construction site & Coke Oven Site by third party monitoring agency M/s Qualissure Laboratory Services, Kolkata which is a NABL accredited laboratory. As per monitoring reports submitted, levels are as follows:																								
		<table border="1"> <thead> <tr> <th>Parameter</th> <th>Near Plant Main Gate</th> <th>Barkola Village</th> <th>Ferro alloy Plant</th> <th>DRI &amp; Pellet Area</th> <th>Railway Siding</th> <th>Project Construction Site</th> <th>Coke Oven Site</th> </tr> <tr> <td></td> <td>Avg.</td> <td>Avg.</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td>Leq (dBA)</td> <td>57.5</td> <td>49.8</td> <td>46.9-73.4</td> <td>45.6-76.2</td> <td>48.8-73.8</td> <td>50.9-73.5</td> <td>47.1-71.4</td> </tr> </tbody> </table>	Parameter	Near Plant Main Gate	Barkola Village	Ferro alloy Plant	DRI & Pellet Area	Railway Siding	Project Construction Site	Coke Oven Site		Avg.	Avg.						Leq (dBA)	57.5	49.8	46.9-73.4	45.6-76.2	48.8-73.8	50.9-73.5	47.1-71.4
Parameter	Near Plant Main Gate	Barkola Village	Ferro alloy Plant	DRI & Pellet Area	Railway Siding	Project Construction Site	Coke Oven Site																			
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Leq (dBA)	57.5	49.8	46.9-73.4	45.6-76.2	48.8-73.8	50.9-73.5	47.1-71.4																			
		Ambient Noise & Source Noise Monitoring Reports are attached as <b>Annexure-X</b> .																								
<b>V.</b>	<b>Energy Conservation measures</b>																									
i.	Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.	Agreed and will be considered in operation phase of MBF, SMS plant.																								
ii.	Restrict Gas flaring to < 1%.	Noted. Still MBF plant is not implemented. The subject point will be considered in operation phase of MBF.																								
iii.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.	Solar lighting system is installed at Administrative building, common area, Main gates, Parking area in parallel with implementation of the project.																								
iv.	Provide LED lights in their offices and residential areas.	Being complied LED lights in the offices and residential areas are provided and will be provided more in parallel with implementation of the project.																								
v.	Ensure installation of regenerative/recuperative type burners on all reheating furnaces.	Noted, Recuperative type energy efficient burner (equivalent to regenerative type) will be considered at design phase in Reheating furnaces.																								
<b>VI.</b>	<b>Waste management</b>																									
i.	An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 Kg/l shall be installed to use slag as river sand in construction industry.	Noted Still MBF plant is not implemented. Blast Furnace slag will be used for cement making in associate company of the Group.																								
ii.	Carbon recovery plant to recover the elemental carbon present in GCP slurries for use in Sinter plant shall be installed.	Noted and will be considered during the operation phase.																								
iii.	Used refractories shall be recycled as far as possible.	Agreed Kiln accretion/ broken refractory mass will be used in associate company Sinter Plant, Cement Manufacturing, and land levelling.																								
iv.	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	Agreed Coal based CPP plant is not yet implemented and as on date no fly ash is generated. MOU for utilization of fly ash in cement plant of associate company (Rashmi Cement Limited (Cement Division), Jhargram & Bansal Cement Pvt. Ltd, Kharagpur) already made and submitted to ministry.																								
v.	Oil Collection pits shall be	Noted and will be considered during design phase of Rolling mill.																								

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	provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.	
vi.	Kitchen waste shall be composted or converted to biogas for further use.	Being Complied Kitchen wastes are being composted and used in green belt development.
<b>VII.</b>	<b>Green Belt</b>	
i.	PP shall undertake the backlog and gap filling of greenbelt work@ 2500plants/hectare in the 2022 monsoon season itself and shall accordingly increase the budget for green belt purpose.	We're regularly working on backlog and gap filling for greenbelt. Survival rate of green belt developed being monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years.
ii.	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.	Complied Updated details of Carbon Foot Prints and Carbon Sequestration (GHG emissions inventory for the plant)is already enclosed as Annexure-I.
iii.	Project proponent shall submit a study report within six months on Decarbonisation program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.	In order to reduce carbon emission dependency on WHRB based power plant is being in operation and currently 68 MW WHRB DRI-based CPP & 42 MW from Coke Oven Plant Total 110 MW is in operation and in future capacity will be increased to 180 MW.  Also process optimisation, modern technologies being adopted to reduce carbon emission.  Carbon Foot Prints and Carbon Sequestration is already enclosed as <b>Annexure-I</b> .
<b>VIII.</b>	<b>Public hearing and Human health issues</b>	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Complied Copy of updated Emergency preparedness plan, Hazard identification and Risk Assessment (HIRA) report and Disaster Management Plan is already submitted vide EC compliance (Dec-2022) vide letter no.-OASPL/ENV_COMP/DECEMBER 2022 dated 21.11.2022.
ii.	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	Agreed and being complied Workers working in high temperature zone are provided with proper PPEs and the duration of their shift in those areas will be max. 4 hrs. or less per day compared to the shift in other areas.

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iii.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	<p style="text-align: center;">Being Complied</p> <p>The occupational health surveillance of the workers is being done on a regular basis and records are maintained as per the Factories Act. To strengthen the Occupational Health Surveillance, a system has been made, in which, employee's Gate Pass is issued only after ensuring the initial medical check-up.</p> <p>The DHS Record is already attached as <b>Annexure- IV</b>.</p>
<b>IX.</b>	<b>Environment Management</b>	
i.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, and as committee by the PP, the company shall adopt eleven villages namely Bargai, Dangarpara, Amba, Gokulpur, Kantapal, Keshpal, Ajabpur, Barkola, Wallipur, Mohanpur and Risha based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.	<p>Noted and being complied in time bound manner. In financial year 2022-23 Rs. 3, 52, 41,922 is spent under CSR/CER head on various activities in nearby villages to address the issues raised during public hearing and socio-economic issues in the study area.</p>
ii.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife	<p>The company have a well laid down environmental policy duly approved by the board of directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of the environmental/ forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/ deviation/violation of the environmental/forest/ wildlife norms/ conditions and / or shareholders/stake holders.</p> <p>EHS policy is already provided to the MOEF&amp;CC vide letter no- RASPL/KGP/2020-2021/01 dated 16.06.2020.</p>

	norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	
iii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	A separate Environmental cell both at project and company head quarter is in place.
<b>X</b>	<b>Miscellaneous</b>	
i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied  Advertisement for expansion environment clearance obtained under EIA notification, 2006 in favour of Orissa Alloy Steel Pvt. Ltd., in two local newspapers that are widely circulated in the region are:  <b>1. Aajkal dated 11.08.2022 (Bengali)</b> <b>2. The Echo of India dated 11.08.2022 (English)</b>  The copy of the same is already submitted vide EC compliance (Dec-2022) vide letter no.-OASPL/ENV_COMP/DECEMBER 2022 dated 21.11.2022.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayat and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied  Copies of EC dated 10.08.2022 submitted to DM, Paschim Medinipur & Barkola Gram Panchayat vide letter dated 10.08.2022. EC copy also uploaded on the website of the company <a href="http://orissametaliks.com/qehs.html">http://orissametaliks.com/qehs.html</a> .  The copy of intimation is already submitted vide EC compliance (Dec-2022) vide letter no.-OASPL/ENV_COMP/DECEMBER 2022 dated 21.11.2022.
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Complied  The environmental clearance and status of compliance of the stipulated environment clearance conditions, including results of monitored data have been uploaded on the website of the company - <a href="http://orissametaliks.com/qehs.html">http://orissametaliks.com/qehs.html</a>
iv.	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Being Complied  The criteria pollutants level namely; PM10, PM2.5, SO2, NOx (ambient levels as well as stack emissions) is monitored by third party monitoring agency which is NABL accredited laboratory. Emission levels of pollutants of different units is displayed on board as per CPCB format outside the main gate of the plant for disclosure to the public and also uploaded on the website of the company - <a href="http://orissametaliks.com/qehs.html">http://orissametaliks.com/qehs.html</a> .  Electronic display board is installed at plant main gate and online stack emission data and CAAQMS data is also being displayed.

For ORISSA ALLOY STEEL PRIVATE LIMITED  
  
 Director / Authorised Signatory

		 
v.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	<p style="text-align: center;">Being complied</p> <p>This report is being submitted in compliance to this point.</p> <p>The last compliance report for the period April 2022 to September 2022 has been submitted to ministry vide letter no. OASPL/ENV COMPL/December 2022 dated 21.11.2022 and also uploaded on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.</p>
vi.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	<p style="text-align: center;">Being complied</p> <p>The environmental statement for financial year 2021-22 in Form-V is submitted to the West Bengal Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 vide letter no-OASPL/ENV_Statement/22-23 dated 23.09.2022 and same is uploaded on the website of the company.</p>
vii.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	<p style="text-align: center;">Being Complied</p> <p>The company is a private company and no finance is needed from outside. Land development work has been started after getting NOC from WBPCB and production operation started after obtaining valid CTO.</p>
viii.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	<p style="text-align: center;">Being Complied</p> <p>We are in the process of complying all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing. In financial year 2022-23 Rs. 3, 52, 41,922 is spent under CSR/CER head on various activities in nearby villages to address the issues raised during public hearing and socio-economic issues in the study area.</p>
ix.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	<p style="text-align: center;">Being Complied</p> <p>In compliance to this point, the management obtained subject Expansion EC projects (1.2 Million TPA to 2.0 Million TPA Finished steel With 270 MW Captive Power Plant) by ministry vide EC Identification no- EC22A008WB114687 issued vide File No. J-11011/169/2017-IA-(II) dated 10.08.2022.</p> <p>Copy of the EC is already submitted vide EC compliance (Dec-2022) vide letter no.-</p>



		OASPL/ENV_COMP/DECEMBER 2022 dated 21.11.2022.
x.	The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain.	The Action Plan on the PH issues, and other commitments made in the EIA/EMP Report is furnished in Half yearly EC compliance report and is uploaded on the website of the company <a href="http://orissametalliks.com/qebs.html">http://orissametalliks.com/qebs.html</a> .
xi.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted
xii.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/information/ monitoring reports.	Agreed
8	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Noted & Agreed
9	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Noted
10	Any appeal against this environmental clearance shall lie with the National Green Tribunal.	Noted

	if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	
11	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Noted
<b>F. No. IA3-22/8/2021-IA.III [E 150512] dated 18.07.2022</b>		
I)	Sensitization of project proponents on implementation of ban on Single Use Plastic (SUP).	In order to create awareness among the employees about the harm/ impact of Single Use Plastic on environment, banner and flex are displayed at suitable place like work place, canteen, parking area etc.

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For ORISSA ALLOY STEEL PRIVATE LIMITED  
  
 Director / Authorised Signatory

## ANNEXURE-I

### DETAILS OF CARBON FOOT PRINTS AND CARBON SEQUESTRATION

As coal is burned, a huge amount of CO<sub>2</sub> is released from the chimneys of the plant to the atmosphere. This caused a substantial rise in temperature of the earth's surface which is known as Global Warming. So, there is an urgent need for CO<sub>2</sub> sequestration for the exhaust gases from the chimney of these types of plants.

The various reactions observed in the combustion of coal are as follows:



Detail calculation of the carbon emission from the project is given below:

#### a) IRON ORE PELLET PLANT

Input: Coal = 3,30,000 TPA

Output: Pellets = 1,10,00,000 TPA  
Pellet Dust = 2,20,000 TPA  
Pellet fines = 3,30,000 TPA

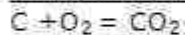
Carbon presents in Input materials: (64%) = 3,30,000 × 64/100 = 2,11,200 TPA

Carbon presents in Output materials (0.04 %) = [1,10,00,000 + 2,20,000 + 3,30,000] × 0.04/100 = 4620 TPA

Remaining carbon emits as CO & CO<sub>2</sub> = (2,11,200 - 4,620) TPA = 2,06,580 TPA

Assumption: 5% of C is converted to CO and rest to CO<sub>2</sub>

#### Reactions taking place in Iron Ore Pellet Plant



Amount of C for CO formation (95 % of 2,06,580 TPA) = 1,96,251 TPA

1 mole of CO<sub>2</sub> → 1 mole of C

44 → 12

X → 1,96,251

Therefore, X = 7,19,587.00

**The amount of CO<sub>2</sub> is 7,19,587.00 TPA**

#### Other reaction taking place in Iron Ore Pellet Plant



Amount of C for CO formation (5 % of 1,96,251 TPA) = 9,826.05 TPA

1 mole of CO → 1 mole of C

28 → 12

X → 9,826.05

Therefore, X = 22,927.45 TPA

**The amount of CO is 22,927.45 TPA**

#### Emissions from Iron ore pellet plant

Sr.No	Component	Quantity (TPA)
1	CO	22,927.45
2	CO <sub>2</sub>	7,19,587.00

**b) SPONGE IRON PLANT**

Input: Coal = 19,80,000 TPA

Output: Sponge Iron= 18,00,000 TPA  
 Sponge Iron Fines= 2,16,000 TPA  
 Dolochar= 5,16,400 TPA  
 Dust= 3,77,500 TPA

Carbon presents in Input materials=  $(19,80,000 \times 40/100)$  TPA  
 = 7,92,000 TPA

Carbon presents in output materials (Sponge Iron, Fines & Dust-0.10 % & Dolochar-25 %)  
 =  $[(18,00,000+2,16,000+3,77,500) \times 0.10/100] + (5,16,400 \times 25/100)$  TPA  
 =  $(2,393.5+1,29,100)$  TPA = 1,31,493.5 TPA

Remaining Carbon emits as CO & CO<sub>2</sub>=  $(7,92,000-1,31,493.5)$  TPA  
 = 6,60,506.5 TPA

Assumption: 5% of carbon is converted to CO and is converted to CO<sub>2</sub>.  
 Amount of C required for production of CO (5% of C) is 33,025.33 TPA

1 mole of CO                      1 mole of C  
 28                                      12  
 X                                        33,025.33

Therefore, X = 77,059.10

**The amount of CO is 77,059.10 TPA**

Amount of C required for production of CO<sub>2</sub> (95 % C) is 6,27,481.17 TPA

1 mole of CO<sub>2</sub>                      1 mole of C  
 44                                      12  
 X                                        6,27,481.17

Therefore, X = 23,00,764.29

**The amount of CO<sub>2</sub> is 22,00,764.29 TPA**

Emission from Sponge Iron Plant:

Sr.No	Component	Quantity (TPA)
1	CO	72,059.10
2	CO <sub>2</sub>	22,00,764.29

**c) COKE OVEN PLANT**

Input: Coking Coal = 7,97,500 TPA

Output: Coke=5,50,000 TPA  
 Coke dust to Sinter=24,900 TPA  
 Coke oven Gas=2,22,600 TPA

Composition of coke oven gas:

Sr.No	Component	Percentage %	Quantity (TPA)
1	H <sub>2</sub>	51	1,13,526
2	CH <sub>4</sub>	34	75,684
3	CO	10	22,260
4	Others	5	11,130
	<b>Total</b>	<b>100</b>	<b>2,22,600</b>

**CO emissions from the coke oven plant is 22,260 TPA**

**d) SINTER PLANT**

Input: Coke Fines= 58,800 TPA

Output: Sinter= 8, 40,000 TPA  
Sinter dust =2, 94,000 TPA

Carbon presents in Input materials (70 %) =  $58,800 \times 70/100$  TPA  
= 41,160 TPA

Carbon presents in output materials (0.05 %) =  $(8, 40,000 + 2, 94,000) \times 0.05/100$  TPA =567 TPA

Remaining carbon emits as CO & CO<sub>2</sub>=  $(41,160-567)$  TPA = 40,593 TPA

Assumption: 5% C converted to CO and rest CO<sub>2</sub>.

Amount of carbon needed for production of CO (5%) is 2,029.65 TPA

1 mole of CO	1 mole of C
28	→ 12
X	→ 2029.65

Therefore, X = 4,735.85

**Amount of CO is 4,735.85 TPA**

Amount of carbon needed for production of CO<sub>2</sub> (95%) is 38,563.35 TPA

1 mole of CO <sub>2</sub>	1 mole of C
44	→ 12
X	→ 38,563.35

Therefore, X = 1, 41,398.95

**Amount of CO<sub>2</sub> is 1, 41,398.95 TPA**

Emission from Sinter Plant:

Sr.No	Component	Quantity (TPA)
1	CO	4735.85
2	CO <sub>2</sub>	1,41,398.95

#### e) **MINI BLAST FURNACE**

Input: Coal Fines = 1, 69,400 TPA  
Coke= 3, 85,000 TPA

Output: Hot metal/Pig Iron=7, 70,000 TPA  
MBF Slag= 2, 46,000 TPA  
Dust = 1, 22,100 TPA

Carbon presents in Input materials (Coal fines-52 % & Coke- 87 %)  
=  $[(1, 69,400 \times 52/100) + (3, 85,000 \times 87/100)]$  TPA  
=  $(88,088 + 3, 34,950)$  TPA  
= 4, 23,038 TPA

Carbon presents in output materials (Hot metal -4.5 % & Slag & Dust -2.5 %)  
=  $[(7, 70,000 \times 4.5/100) + (3, 68,100 \times 2.5/100)]$   
=  $(34,650 + 9,202.5)$  TPA  
= 43,852.5 TPA

Carbon emits as CO & CO<sub>2</sub>=  $(4, 23,038-43,852.5)$  TPA =3, 79,185.5 TPA

Assumption: 5% of C converted to CO and rest to CO<sub>2</sub>

Amount of C required for production of CO (5%) is 18,959.28 TPA

1 mole of CO	1 mole of C
28	→ 12
X	→ 18,959.28

Therefore, X = 44,238.31



### g) FERRO- ALLOY PLANT

Input-           Coke: 93,600 TPA  
                  Coal: 23,400 TPA

Output:          Ferro Alloy=78,000 TPA  
                  Slag=1, 17,000 TPA

Carbon presents in Input materials (Coal fines-52 % & Coke- 87 %)  
= [(23,400 x 52/100) + (93,600 x 87/100)] TPA  
= (12,168 +81,432) TPA  
= 93,600 TPA

Carbon presents in output materials (Ferro Alloy-2.5 % & Slag-1.7 %)  
= [(78,000 x 2.5/100) + (1, 17,000 x 1.7/100)] TPA  
= (1,950 + 1,989) TPA  
= 3,939 TPA

Remaining carbon emits as CO & CO<sub>2</sub>= (93,600-3,939) TPA  
= 89,661 TPA

Assumption: 5% C converted to CO and rest to CO<sub>2</sub>  
Amount of C required for production of CO (5% C) is 4,483.05 TPA  
1 mole of CO                           1 mole of C  
28                                        12  
X   4,483.05  
X= 10,460.45

**The amount of CO is 10,460.45 TPA**

Amount of C required for production of CO<sub>2</sub> (95% C) is 85,177.95 TPA  
1 mole of CO<sub>2</sub>                           1 mole of C  
44                                        12  
X   85,177.95  
X= 3, 12,319.15

**The amount of CO<sub>2</sub> is 3, 12,319.15 TPA**

Emission from Ferro Plant:

Sr. No	Component	Quantity (TPA)
1	CO	10,460.45
2	CO <sub>2</sub>	3,12,319.15

### h) CAPTIVE POWER PLANT

Input            Coal -5, 57,050 TPA  
                  Dolochar - 5, 16,400 TPA

Here dolochar is also a raw material, but for CO & CO<sub>2</sub> emission calculation dolochar is taken as product from Sponge Iron plant.

Carbon presents in Coal (32 %) = 1, 78,256 TPA  
Carbon presents in Dolochar (25%) = 1, 29,100 TPA  
Total Carbon = 3, 07,356 TPA

**Assuming 98.6% combustion**

Total carbon content for the production of CO<sub>2</sub> = 3, 07,356 x 0.9986 TPA  
= 3, 03,053.02 TPA

1 mole of CO<sub>2</sub>                           1 mole of C  
44                                        12  
X   3, 03,053.02

$$X = 11, 11,194.41$$

**The amount of CO<sub>2</sub> is 11, 11,194.41 TPA**

Total carbon content for the production of CO is  $(3, 03,053.02 \times 0.014) = 4,242.75$  TPA

$$\begin{array}{rcl} 1 \text{ mole of CO} & & 1 \text{ mole of C} \\ 28 & \rightarrow & 12 \\ X & \rightarrow & 4,242.75 \end{array}$$

$$X = 9, 899, 73$$

**The amount of CO is 9,899.73 TPA**

Emission from CPP units:

Sr. No	Component	Quantity (TPA)
1	CO	9,899.73
2	CO <sub>2</sub>	11,11,194.41

### i) LIME DOLOMITE PLANT

Lime is calcium oxide (CaO) produced on heating (calcination) of limestone (CaCO<sub>3</sub>) to a temperature of 900 deg C and above (usually 1100 deg C).



Input: Lime stone/dolomite=1, 32, 000 TPA

Carbon percentage in limestone/Dolomite= 12 %

Carbon present in CaCO<sub>3</sub> is  $(1, 32,000 \times 12/100) = 15,840$  TPA

$$\begin{array}{rcl} 1 \text{ mole of CO}_2 & & 1 \text{ mole of C} \\ 44 & \rightarrow & 12 \\ X & \rightarrow & 15,840 \end{array}$$

$$X = 58,080$$

The amount of CO<sub>2</sub> is 58,080 TPA

### j) DUCTILE IRON PIPE PLANT

Input: Hot Metal-2, 12,225 TPA

Carbon presents is (4.5 %) = 9,550.13 TPA

Output materials: DI pipes=2, 00,000 TPA

APC dust= 4,292 TPA

Core sand & slag=4,777 TPA

Carbon in output materials (DI pipes-2%, APC dust-0.4 % & Core sand and slag-0.05 %)  
 $= (2, 00,000 \times 2/100) + (4,292 \times 0.4/100) + (4,777 \times 0.05/100)$  TPA  
 $= (4,000 + 17.17 + 2.39)$  TPA  
 $= 4,019.56$  TPA

Carbon emits as CO & CO<sub>2</sub> =  $(9,550.13 - 4,019.56)$  TPA  
 $= 5,530.57$  TPA

Assumption: 5% C converted to CO and rest to CO<sub>2</sub>

Amount of C required for production of CO (5% C) is 276.53 TPA

$$\begin{array}{rcl} 1 \text{ mole of CO} & & 1 \text{ mole of C} \\ 28 & \rightarrow & 12 \\ X & \rightarrow & 276.53 \end{array}$$

$$X = 645.24$$

**The amount of CO is 645.24 TPA**

Amount of C required for production of CO<sub>2</sub> (95% C) is 5,254.04 TPA

$$\begin{array}{rcl} 1 \text{ mole of CO}_2 & & 1 \text{ mole of C} \end{array}$$



44 → 12  
 X → 5,254.04  
 X = 19,264.81

**The amount of CO<sub>2</sub> is 19,264.81 TPA**

Emission from DIP plant:

Sl. No	Component	Quantity (TPA)
1	CO	276.53
2	CO <sub>2</sub>	19,264.81

### **CARBON SEQUESTRATION:**

The rate of carbon sequestering depends on growth parameters of the plants. Density of wood of plants plays a major role. Trees act as sinks for carbon dioxide by fixing carbon during photosynthesis and storing carbon as biomass (Carbon sequestration). The net long-term carbon dioxide source/sink dynamics of green belt area change through time as trees grow, get pruned, die and decay. Trees in green belt areas sequester and store carbon as they grow. Thus, green belt influence local climate, carbon cycles, energy use and climate change. There are few methods companies have been/ will be adopting for capturing carbon emission:

- ❖ Green field technology-company has done sufficient plantation in and around the plant premises. The detail is already discussed in **section 4.11.2.**

### **AMOUNT OF CARBON SEQUESTERED THROUGH GREENBELT**

The rate of carbon sequestration depends on the growth characteristics of the tree species, the density of its wood, the location's conditions for growth, and the plant stage of the tree. It is greatest in the younger stages of tree growth, between 20 to 50 years. Further complicating the issue is the fact that far less research has been done on tropical tree species as compared to temperate tree species.

To calculate Amount of carbon sequestered through trees process are as follows:

- a) Determine the total (green) weight of the tree.
  - b) Determine the dry weight of the tree.
  - c) Determine the weight of carbon in the tree.
  - d) Determine the weight of carbon dioxide sequestered in the tree
  - e) Determine the weight of CO<sub>2</sub> sequestered in the tree per year
- a) Determine the total (green) weight of the tree.**

The green weight is the weight of the tree when it is alive. The green weight of the above-ground weight as follows:

$$W \text{ (above-ground)} = 0.25 D^2 H \text{ (for trees with } D < 11)$$

$$W \text{ (above-ground)} = 0.15 D^2 H \text{ (for trees with } D > 11)$$

**Note:**

W (above-ground) = Above-ground weight in pounds

D = Diameter of the trunk in inches

H = Height of the tree in feet

The root system weight is about 20% of the above-ground weight. Therefore, to determine the total green weight of the tree, multiply the above-ground weight by 1.2:

$$W (\text{total green weight}) = 1.2 * W (\text{above-ground})$$

**b) Determine the dry weight of the tree.**

The average tree is 72.5% dry matter and 27.5% moisture. Therefore, to determine the dry weight of the tree, multiply the total green weight of the tree by 72.5%.

$$W (\text{dry weight}) = 0.725 * W (\text{total green weight})$$

**c) Determine the weight of carbon in the tree.**

The average carbon content is generally 50% of the tree's dry weight total volume. Therefore, in determining the weight of carbon in the tree, multiply the dry weight of the tree by 50%.

$$W (\text{carbon}) = 0.5 * W (\text{dry weight})$$

**d) Determine the weight of carbon dioxide sequestered in the tree**

CO<sub>2</sub> is composed of one molecule of Carbon and 2 molecules of Oxygen.

The atomic weight of Carbon = 12.00

The atomic weight of Oxygen = 15.99

The weight of CO<sub>2</sub> is C + 2 \* O = 43.99

The ratio of CO<sub>2</sub> to C is 43.99/12.00 = 3.67

Therefore, to determine the weight of carbon dioxide sequestered in the tree, multiply the weight of carbon in the tree by 3.67.

$$W (\text{carbon-dioxide}) = 3.67 * W (\text{carbon})$$

**CO<sub>2</sub> SEQUESTRATION CALCULATION DETAIL:**

**CASE-I (For the Initial First 05 Years)**

➤ **From Existing Trees:**

Company had already developed 31.5 % of total plant area as green belt. Approx. 98,800 nos. of trees is survived. Two scenarios are considered. Details are as follows:

**Scenario-I-** [Out of the total planted trees 500 trees Avg. 10 meter tall or 32.81 feet tall ("H") and 30 cm trunk or 11.81-inch trunk ("D")]

$$\begin{aligned} W (\text{above-ground}) &= 0.15 D^2 H \\ &= 0.15 (11.81)^2 (32.81) \\ &= 686.43 \text{ lbs (311.36 kg)} \end{aligned}$$

$$\begin{aligned} W (\text{total green weight}) &= 1.2 * W (\text{above-ground}) \\ &= 1.2 * 686.43 \\ &= 823.72 \text{ lbs (373.63 kg)} \end{aligned}$$

$$\begin{aligned}
 \text{W (dry weight)} &= 0.725 * \text{W (total green weight)} \\
 &= 0.725 * 823.72 \text{ lbs} \\
 &= 597.20 \text{ lbs (270.89 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (carbon)} &= 0.5 * \text{W (dry weight)} \\
 &= 0.5 * 597.20 \text{ lbs} \\
 &= 298.60 \text{ lbs (135.44 kg} \approx 135 \text{ kg)}
 \end{aligned}$$

*Average carbon sequestered by existing individual tree is 135 kg or 0.135 tons*

$$= 500 \text{ trees} \times 0.135 \text{ MT/Year} = 67.5 \text{ MT/Year} \dots\dots\dots \text{(A)}$$

**Scenario-II-** [Balance 97,800 trees newly planted trees in last three years - Avg. 3 meter tall or 9.84 feet tall ("H") and 10 cm trunk or 3.94-inch trunk ("D")]

$$\begin{aligned}
 \text{W (above-ground)} &= 0.25 D^2 H \\
 &= 0.25 (3.94)^2 (9.84) \\
 &= 38.19 \text{ lbs (17.32 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (total green weight)} &= 1.2 * \text{W (above-ground)} \\
 &= 1.2 * 38.19 \\
 &= 45.83 \text{ lbs (20.79 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (dry weight)} &= 0.725 * \text{W (total green weight)} \\
 &= 0.725 * 45.83 \text{ lbs} \\
 &= 33.23 \text{ lbs (15.07 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (carbon)} &= 0.5 * \text{W (dry weight)} \\
 &= 0.5 * 33.23 \text{ lbs} \\
 &= 16.62 \text{ lbs (7.58 kg} \approx 8.0 \text{ kg)}
 \end{aligned}$$

*Average carbon sequestered by existing newly planted individual tree is 8 kg or 0.008 tons*

$$= 98,300 \text{ trees} \times 0.008 \text{ MT/Year} = 786.40 \text{ MT/Year} \dots\dots\dots \text{(B)}$$

**Company has sequestered 853.90 MT Carbon (A+B) till the date of inception.**

➤ **From Proposed Trees:**

Company had proposed to plant 21,375 nos. of trees within a span of 1-2 years of Avg. 1.5 meter tall or 4.92 feet tall ("H") and 05 cm trunk or 1.97 inch trunk ("D")

$$\begin{aligned}
 \text{W (above-ground)} &= 0.25 D^2 H \\
 &= 0.25 (1.97)^2 (4.92) \\
 &= 4.77 \text{ lbs (2.16 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (total green weight)} &= 1.2 * \text{W (above-ground)} \\
 &= 1.2 * 4.77 \\
 &= 5.72 \text{ lbs (2.60 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (dry weight)} &= 0.725 * \text{W (total green weight)} \\
 &= 0.725 * 5.72 \text{ lbs} \\
 &= 4.15 \text{ lbs (1.88 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (carbon)} &= 0.5 * \text{W (dry weight)} \\
 &= 0.5 * 4.15 \text{ lbs} \\
 &= 2.08 \text{ lbs (0.94 kg} \approx 1.0 \text{ kg)}
 \end{aligned}$$

*Average carbon sequestered by proposed tree is 1.0 kg or 0.001 tons*

$$= 21,375 \text{ trees} \times 0.001 \text{ MT/Year} = 21.38 \text{ MT/Year} \dots\dots\dots \text{(C)}$$

**Total carbon sequestered (A+ B+ C) = 875.28 MT/Year**

**CASE-II (Post 05 Years till maturity of the trees or 10 years)**

Company will developed 33 % of total plant area as green belt @ 2500 trees per hectare. Approx. 1, 20,200 nos. of trees planted in and around the plant premises all along the boundary. Consider the detail of the trees

Avg. 5 meter tall or 16.4 feet tall ("H")

25 cm trunk or 9.8 inch trunk ("D")

$$\begin{aligned}
 \text{W (above-ground)} &= 0.25 \text{ D}^2 \text{ H} \\
 &= 0.25 (9.8)^2 (16.4) \\
 &= 393.76\text{lbs (178.61 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (total green weight)} &= 1.2 * \text{W (above-ground)} \\
 &= 1.2 * 393.76 \\
 &= 472.51 \text{ lbs (214.33 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (dry weight)} &= 0.725 * \text{W (total green weight)} \\
 &= 0.725 * 472.51 \text{ lbs} \\
 &= 342.57 \text{ lbs (155.39 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (carbon)} &= 0.5 * \text{W (dry weight)} \\
 &= 0.5 * 342.57 \text{ lbs} \\
 &= 171.29 \text{ lbs (77.69 kg} \approx 78 \text{ kg)}
 \end{aligned}$$

*Average carbon sequestered by existing individual tree is 78 kg or 0.078 tons*

$$= 1,20,200 \text{ trees} \times 0.078 \text{ MT/Year} = 9,376 \text{ MT/Year}$$

**CASE-III (From fully mature tree-post 10 years till 30 years)**

Company will developed 33 % of total plant area as green belt @ 2500 trees per hectare. Approx. 1,20,200 nos. of trees planted in and around the plant premises all along the boundary. Consider the detail of the trees

Avg. 10 meter tall or 32.81 feet tall ("H")

30 cm trunk or 11.81-inch trunk ("D")

$$\begin{aligned}
 \text{W (above-ground)} &= 0.15 \text{ D}^2 \text{ H} \\
 &= 0.15 (11.81)^2 (32.81) \\
 &= 686.43 \text{ lbs (311.36 kg)}
 \end{aligned}$$

$$\begin{aligned}
 \text{W (total green weight)} &= 1.2 * \text{W (above-ground)} \\
 &= 1.2 * 686.43 \\
 &= 823.72 \text{ lbs (373.63 kg)}
 \end{aligned}$$

$$\begin{aligned} \text{W (dry weight)} &= 0.725 * \text{W (total green weight)} \\ &= 0.725 * 823.72 \text{ lbs} \\ &= 597.20 \text{ lbs (270.89 kg)} \end{aligned}$$

$$\begin{aligned} \text{W (carbon)} &= 0.5 * \text{W (dry weight)} \\ &= 0.5 * 597.20 \text{ lbs} \\ &= 298.60 \text{ lbs (135.44 kg} \approx 135 \text{ kg)} \end{aligned}$$

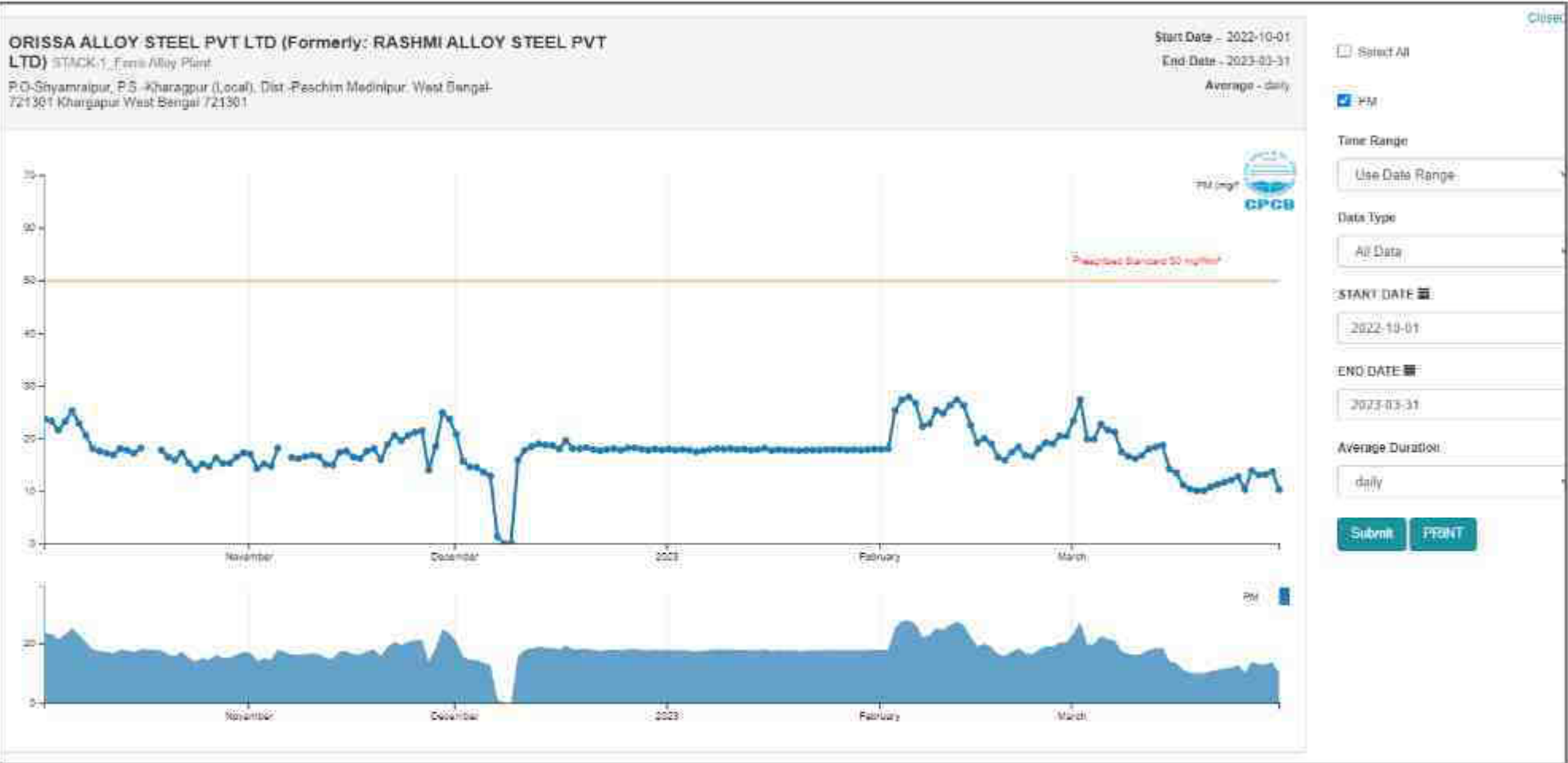
*Average carbon sequestered by tree is 135 kg or 0.135 tons.*

$$= 1, 20,200 \text{ trees} \times 0.135 \text{ MT/Year} = 16,227 \text{ MT/Year}$$

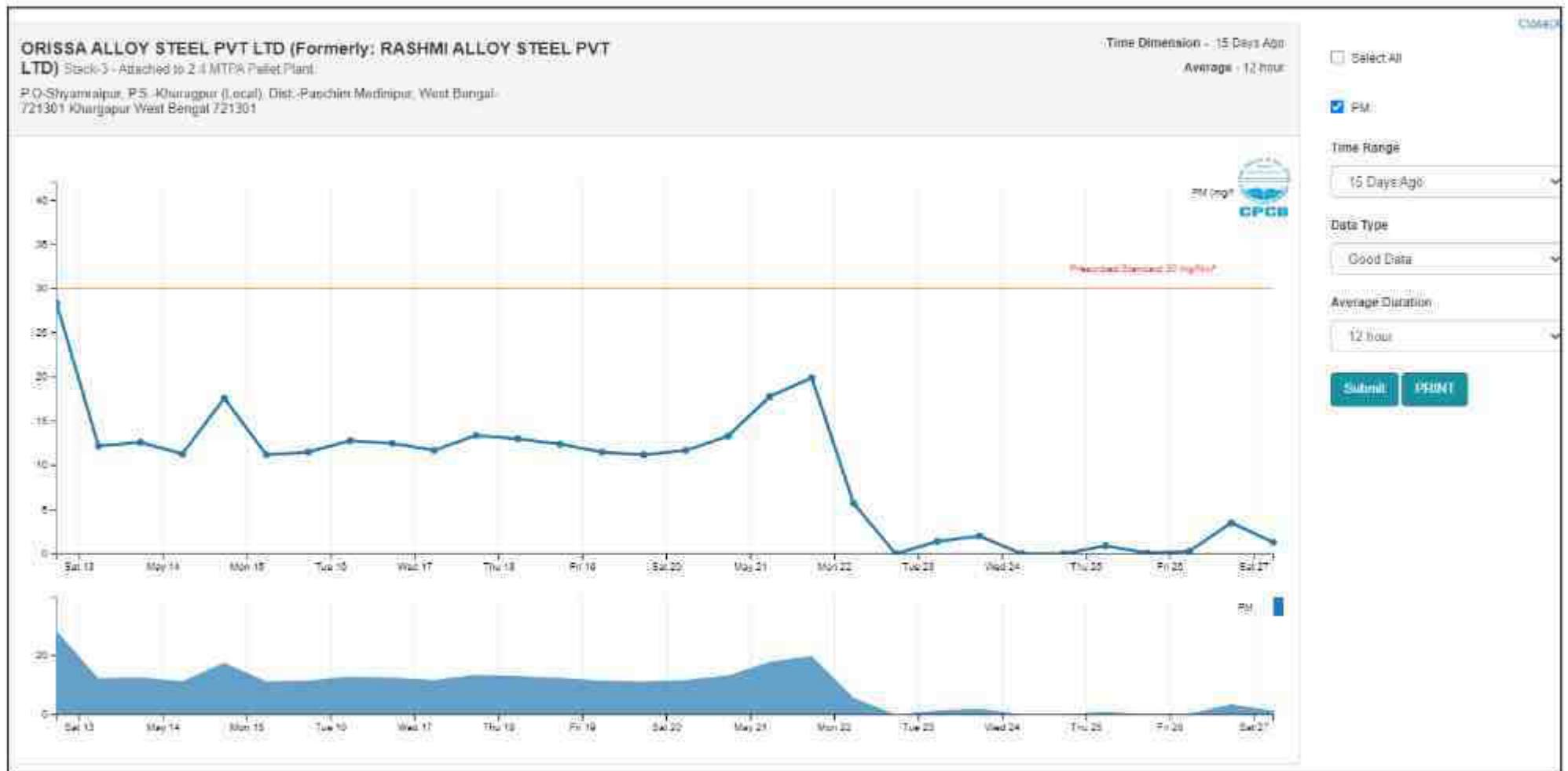
Additional under EMP for social & Infrastructure development avenue plantation will be done and fund allocated is INR. 30.00 Lacs. In and around the plant premises in nearby villages green belt will be developed by planting more or less approx. 60,000 nos. of trees and average carbon sequestration from fully mature trees will be 8100 MT per year.

**Total Carbon Sequestered by Tree (Planted Inside of plant + Trees planted in nearby villages) = 24,327 MT /year.**

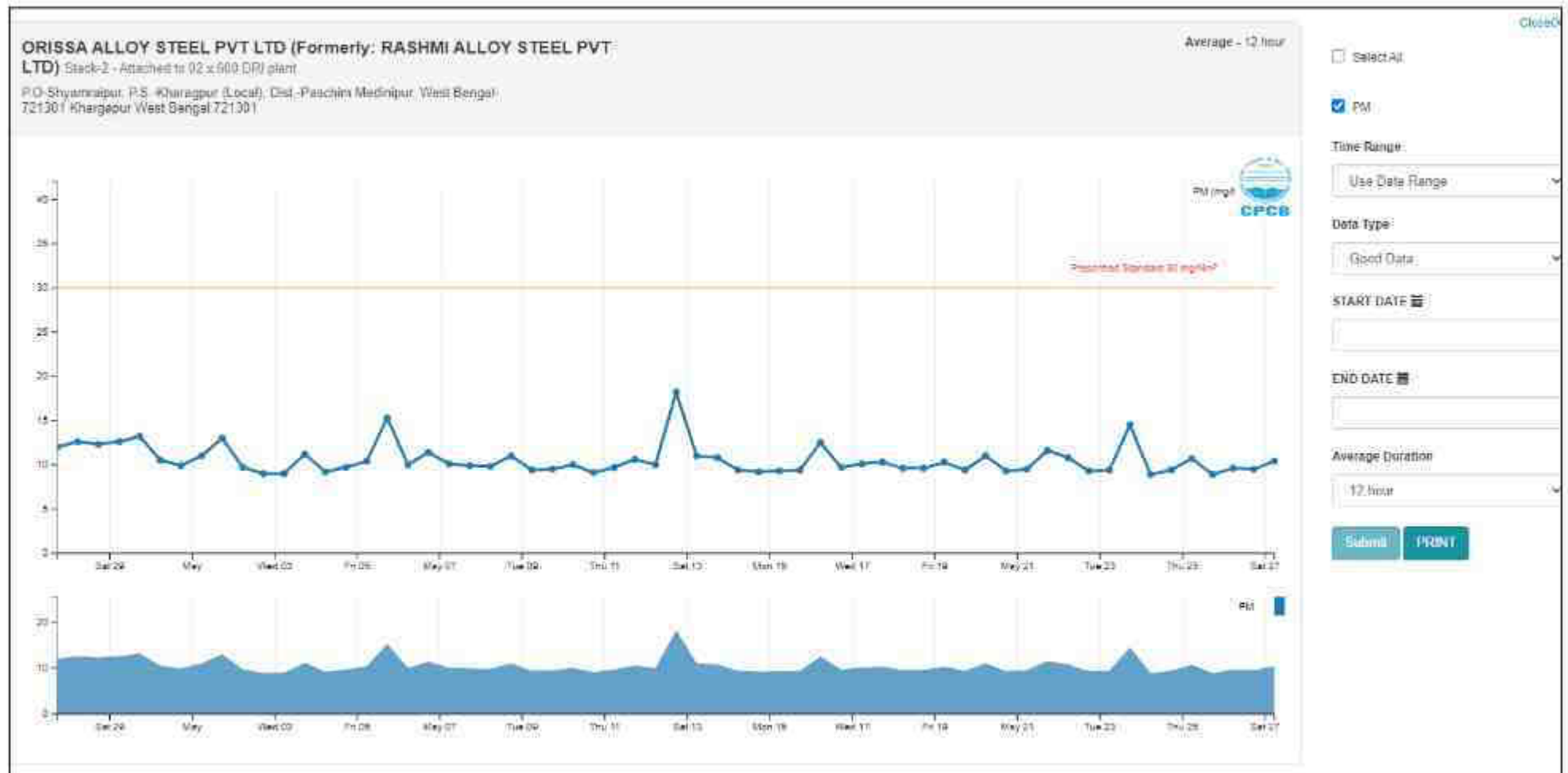
# ONLINE CONTINUOUS EMISSION MONITORING SYSTEM



# ONLINE CONTINUOUS EMISSION MONITORING SYSTEM



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# ONLINE CONTINUOUS EMISSION MONITORING SYSTEM





WEST BENGAL POLLUTION CONTROL BOARD  
HALDIA REGIONAL LABORATORY  
Raghunathchak, P.O Barghasipur, P.S- Bhabanipur, Haldia  
Purba Medinipur- 721657

**Analysis Report of Gaseous Emission**

**Analysis Done at Haldia Regional Laboratory :**

1. Name of Industry		M/s Orissa Alloy Steel Pvt. Ltd	
2. Address		VIII- Gokulpur, Shyamralpur, Kharagpur, Paschim Medinipur	
3. Category & Type		Red, Sponge iron Plant	
4. Sampling Date		16/01/2023	
5. Duration of Sampling		27 min	
6. Name of Laboratory		M/s Envirocheck	
7. Height of Stack from ground (m)		50.0	
8. Cross section of Stack at sampling point(m <sup>2</sup> )		7.0650	
9. Stack connected to		Coke Oven Battery (No. 1 & 2) and (No. 3 & 4) attached to common stack through individual WHRB (All Coke Oven battery were in operation)	
10. Emission due to (Furnace /Boiler)		Carbonization of Coal	
11. Average operational hours of boiler/ furnace (per month)		720 hrs/month	
12. APC System (if any)		NIL	
13. Working load of source (MT/hr)		Rated-170 TPD (Each Battery) Running -170 (each Battery)	
14. Fuel used		Coal	
15. Rated Fuel consumption (Kg or l/hr)		-	
16. Working Fuel consumption (Kg or l/hr)		170 TPD( Each coke Oven Battery)	
17. Nature of Furnace /Boiler		Non Recovery Coke Battery	
18. Flue gas Temp. (°C)		153.0	
19. Flue gas velocity m/s	11.97	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.026
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9889	22. Percentage CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> -5.6% & O <sub>2</sub> -12.4%
23. To be compensated at (% , if required)		At 6% CO <sub>2</sub>	
24. Initial wt of thimble (gm)	1.4309	25. Final wt of thimble (gm)	1.4570
26. Wt. of PM (mg)	26.10	27. Particulate matter (mg/Nm <sup>3</sup> )	28.28
28. Barometric Pressure Head	755 mm of Hg	29. Diameter of the nozzle	9.52 mm
30. Others:-		31. Thimble No.	242
32. Sampled by:		A.Das, AEE, HRO	

\*Done by M/s Envirocheck

*Gautam Ghosh*  
09/02/23  
Scientist

*A. Das*  
09/02/23  
Signature of In-Charge

Copy to:

1. Chief Engineer, O & E, WBPCB.
2. Chief Scientist, WBPCB
3. AEE & I/C, H.R.O, WBPCB (two copies)



**Analysis Report of Gaseous Emission**

**Analysis Done at Haldia Regional Laboratory :**

1. Name of Industry	M/s Orissa Alloy Steel Pvt. Ltd		
2. Address	VIII- Gokulpur, Shyamraipur, Kharagpur, Paschim Medinipur		
3. Category & Type	Red, Sponge Iron Plant		
4. Sampling Date	16/01/2023		
5. Duration of Sampling	39 min		
6. Name of Laboratory	M/s Envirocheck		
7. Height of Stack from ground (m)	75.0		
8. Cross section of Stack at sampling point(m <sup>2</sup> )	15.91		
9. Stack connected to	Rotary Kiln(No.1 &2) (600 TPD x 2) attached to common stack through WHRB(only Rotary Kiln No.-2 was in running)		
10. Emission due to (Furnace /Boiler)	Oxidation of Coal and reduction of Fe ore		
11. Average operational hours of boiler/ furnace (per month)	720 hrs/month		
12. APC System (if any)	Individual ESP		
13. Working load of source (MT/hr)	600 TPD(only for Rotary Kiln 2)		
14. Fuel used	Coal		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	21.8 TPH(Only Rotary Kiln-2)		
17. Nature of Furnace /Boiler	Rotary DRI Kiln		
18. Flue gas Temp. (°C)	122.9		
19. Flue gas velocity m/s	7.61	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.014
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9577	22. Percentage CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> -10.8% & O <sub>2</sub> -8.6%
23. To be compensated at (% , if required)	At 12% CO <sub>2</sub>		
24. Initial wt of thimble (gm)	1.4672	25. Final wt of thimble (gm)	1.4914
26. Wt. of PM (mg)	24.20	27. Particulate matter (mg/Nm <sup>3</sup> )	28.08
28. Barometric Pressure Head	755 mm of Hg	29. Diameter of the nozzle	9.52 mm
30. Others:-		31. Thimble No.	241
32. Sampled by:	A.DAs, AEE, HRO		

\*Done by M/s Envirocheck

*Sansidhar*  
09/02/23  
Scientist

*[Signature]*  
09/08/23  
Signature of In-Charge

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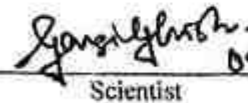
WEST BENGAL POLLUTION CONTROL BOARD  
HALDIA REGIONAL LABORATORY  
Raghu Nathchak, P.O Barghasipur, P.S- Bhabanipur, Haldia  
Purba Medinipur- 721657

**Analysis Report of Gaseous Emission**

**Analysis Done at Haldia Regional Laboratory :**

1. Name of Industry	M/s Orissa Alloy Steel Pvt. Ltd		
2. Address	VIII- Gokulpur, Shyamraipur, Kharagpur, Paschim Medinipur		
3. Category & Type	Red, Sponge Iron Plant		
4. Sampling Date	16/01/2023		
5. Duration of Sampling	27 min		
6. Name of Laboratory	M/s Envirocheck		
7. Height of Stack from ground (m)	90.0		
8. Cross section of Stack at sampling point(m <sup>2</sup> )	28.28		
9. Stack connected to	Rotary Kiln(No.3 &4) (600 TPD x 2) attached to common stack through WHRB(both Kiln were in operation)		
10. Emission due to (Furnace /Boiler)	Oxidation of Coal and reduction of Fe ore		
11. Average operational hours of boiler/ furnace (per month)	720 hrs/month		
12. APC System (if any)	Individual ESP		
13. Working load of source (MT/hr)	600 TPD x 2		
14. Fuel used	Coal		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	22 TPH(Each Kiln)		
17. Nature of Furnace /Boiler	Rotary DRI Kiln		
18. Flue gas Temp. (°C)	158.7		
19. Flue gas velocity m/s	11.92	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.026
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9722	22. Percentage CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> -11.4% & O <sub>2</sub> -7.4%
23. To be compensated at (%. if required)	At 12% CO <sub>2</sub>		
24. Initial wt of thimble (gm)	1.4011	25. Final wt of thimble (gm)	1.4272
26. Wt. of PM (mg)	26.10	27. Particulate matter (mg/Nm <sup>3</sup> )	28.26
28. Barometric Pressure Head	755 mm of Hg	29. Diameter of the nozzle	9.52 mm
30. Others:-		31. Thimble No.	240
32. Sampled by:	K. Sahoo, AEE, HRO		

\*Done by M/s Envirocheck

  
Scientist 09/02/23

  
Signature of In-Charge

Copy to:

1. Chief Engineer, O & E, WBPCB.
2. Chief Scientist, WBPCB
3. AEE & I/C, H.R.O, WBPCB (two copies)



**Analysis Report of Gaseous Emission**

**Analysis Done at Haldia Regional Laboratory :**

1. Name of Industry	M/s Orrisa Alloy Steel Pvt. Ltd		
2. Address	VIII- Gokulpur, Shyamraipur, Kharagpur, Paschim Medinipur		
3. Category & Type	Red, Alloy Steel Plant		
4. Sampling Date	16/01/2023		
5. Duration of Sampling	28 min		
6. Name of Laboratory	M/s Indicative Consultant India		
7. Height of Stack from ground (m)	35.00		
8. Cross section of Stack at sampling point(m <sup>2</sup> )	1.7678		
9. Stack connected to	Submerged Electrical Arc Furnace No-3		
10. Emission due to (Furnace /Boiler)	Melting of coke, Mn ore, Dolomite, Lime stone		
11. Average operational hours of boiler/ furnace (per month)	720 hrs/month		
12. APC System (if any)	Bag filter		
13. Working load of source (MT/hr)	9 MVA		
14. Fuel used	Electrically		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of Furnace /Boiler	SEAF		
18. Flue gas Temp. (°C)	54.0		
19. Flue gas velocity m/s	9.59	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1,008
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9451	22. Percentage CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> -1.8% & O <sub>2</sub> -17.2%
23. To be compensated at (% , if required)	-		
24. Initial wt of thimble (gm)	1.5888	25. Final wt of thimble (gm)	1.5932
26. Wt. of PM (mg)	4.40	27. Particulate matter (mg/Nm <sup>3</sup> )	4.66
28. Barometric Pressure Head	755 mm of Hg	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	217
32. Sampled by:	K. Sahoo, AEE, HRO		

\*Done by M/s Indicative Consultant India

*K. Sahoo*  
08/02/23  
Scientist

*K. Sahoo*  
08/02/23  
Signature of In-Charge

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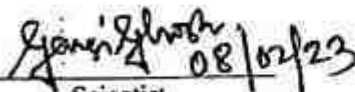


**Analysis Report of Gaseous Emission**

**Analysis Done at Haldia Regional Laboratory :**

1. Name of Industry	M/s Orrisa Alloy Steel Pvt. Ltd		
2. Address	Vill- Gokulpur, Shyamraipur, Kharagpur, Paschim Medinipur		
3. Category & Type	Red, Alloy Steel Plant		
4. Sampling Date	16/01/2023		
5. Duration of Sampling	34 min		
6. Name of Laboratory	M/s Indicative Consultant India		
7. Height of Stack from ground (m)	35.00		
8. Cross section of Stack at sampling point(m <sup>2</sup> )	1.7678		
9. Stack connected to	Submerged Electrical Arc Furnace No-1 & 2 (attached with a Common Stack)		
10. Emission due to (Furnace /Boiler)	Melting of coke, Mn ore, Dolomite, Lime stone		
11. Average operational hours of boiler/ furnace (per month)	720 hrs/month		
12. APC System (if any)	Bag filter		
13. Working load of source (MT/hr)	9 MVA		
14. Fuel used	Electrically		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of Furnace /Boiler	SEAF		
18. Flue gas Temp. (°C)	62.0		
19. Flue gas velocity m/s	8.19	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.023
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.9596	22. Percentage CO <sub>2</sub> & O <sub>2</sub>	CO <sub>2</sub> -2.0% & O <sub>2</sub> -17.0%
23. To be compensated at (% , if required)	-		
24. Initial wt of thimble (gm)	1.4368	25. Final wt of thimble (gm)	1.4430
26. Wt. of PM (mg)	6.20	27. Particulate matter (mg/Nm <sup>3</sup> )	6.46
28. Barometric Pressure Head	755 mm of Hg	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	216
32. Sampled by:	K. Sahoo, AEE, HRO		

\*Done by M/s Indicative Consultant India

  
Scientist

  
Signature of In-Charge

Copy to:

1. Chief Engineer, O & E, WBPCB.
2. Chief Scientist, WBPCB
3. AEE & I/C, H.R.O, WBPCB (two copies)

ANNEXURE-IV

FORM NO. 17A

Record of Eye Examination

Sl. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result		
01	CPP (Mach)	Sagar Pal (60649)	M	27 yrs. 16-06-93	GBT.	01-04-2021	16-05-2021	RE < 6/6 6/6	S Das	Fit
02	CPP Jank Bagra	Prabhat KR. Mishra (60652)	M	23 yrs 12-4-94	operator	01-04-21	16-05-2021	RE < 6/6 6/6	S Das	Fit
03	DRS Foukara	Manoj Kumar Sahoo (60654)	M	29 yrs 16-11-91	mechanic	01-04-21	16-05-2021	RE < 6/6 6/6	S Das	Fit
04	DRS Sr. Cement	Chandi Charan Patra (60655)	M	31 yrs 29/1/90	QC	01-04-21	16-05-2021	RE < 6/6 6/6	S Das	Fit
05	DRS Engineering	Monoj KR. Khatak 60656	M	01-01-82	EGP	02-04-21	16-05-2021	RE < 6/6 6/6	S Das	Fit

Dr. *Sanjay Das*  
 Dr. Sanjay Das  
 Regd. no. .... MBBS - DLO  
 (Ophthalmologist)

Rgno. 42401  
 Ophthalmologist Sing. of Seal

FORM NO. 17A

Record of Eye Examination

SL NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT	SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment			
06	CRP ITG	Sourav Mandal (60657)	M	25 Yrs 02.2.98	Master Tink	02-21 04	18.05.2018 RSE < 6/6 6/6	S Das	Fit
07	DRS Fitter	Dinabandhu Sarmah (60659)	M	21 Yrs 01-01-80	Master	02-21 04	18.05.2018 RSE < 6/6 6/6	S Das	Fit
08	CRP. Electrician	Rajesh Kr. Tripathy (60662)	M	29 Yrs 11.2.97	Electrician	02-21 04	18.05.2018 RSE < 6/6 6/6	S Das	Fit
09	DRS Fitter	Saikh Maulana Alam (60663)	M	41 Yrs 16.2.80	Master	02-21 04	18.05.2018 RSE < 6/6 6/6	S Das	Fit
10	CRP Technician	Banumali Karm (60664)	M	21 Yrs 06.6.89	DRS	02-21 04	18.05.2018 RSE < 6/6 6/6	S Das	Fit

Dr. *Sanjay Das*  
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Ophthalmologist Sing. of Seal



Record of Eye Examination

Sl. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		Date	EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment		Result			
11	DE'S CARTER	Thantun Zawa. (60665)	M	36yrs 22.2.85	moesh	03- $\frac{4}{21}$	18.05.81	RE < 6/6	S Das	Fit	
12	DE'S Welder	Douyroti Pd. 60668	M	23yrs 22-9-82	moesh	03- $\frac{4}{21}$	18.05.81	RE < 6/6	S Das	Fit	
13	DE'S Welder	Kallon Das (60669)	M	30yrs 9-6-90	moesh	03- $\frac{4}{21}$	18.05.81	RE < 6/6	S Das	Fit	
14	DE'S Supervisor	Asish Ghosh. (60670)	M	24yrs 21-12-93	Pages	03- $\frac{4}{21}$	18.05.81	RE < 6/6	S Das	Fit	
15	DE'S Supervisor	Aray Ghorai (60671)	M	19yrs 25-11-01	Pages	03- $\frac{4}{21}$	18.05.81	RE < 6/6	S Das	Fit	

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Record of Eye Examination

SL. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result		
14	CPR Asst. Engg	K. Srinivas Vivek (60673)	M	28Y 17.6.92	Electrician	05-04-21	18.05.2019	REF < 6/6	S Das	Fit
12	DLS Sr. Chemist	Pripul Acharya (60674)	M	43Yrs 20.4.78	Ac	05-04-21	18.05.2019	REF < 6/6	S Das	Fit
18	DLS Sr. Engineer	Ramakanta Nayak 60675	M	20Y 16.12.90	EGS	05-04-21	18.05.2019	REF < 6/6	S Das	Fit
19	nic Prisident	Anil Kumar Patra (60676)	M	39Yrs 05.7.81	operator	06-4-21	18.05.2019	REF < 6/6	S Das	Fit
20	fallet (Mech)	Shamangaon Das (60677)	M	27Yrs 09.9.93	Electrician	06-04-21	18.05.2019	REF < 6/6	S Das	Fit

Dr. *Sanjay Das*

Regd. no. **Dr. Sanjay Das**

MBBS - DLO

(Ophthalmologist)

Ophthalmologist Seal

FORM NO. 17A

Record of Eye Examination

Sl. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION			EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result			
21	Dr. J. Guec.	Basant Kumar 60680	M	30 yrs 12-2-91	CLT.	07-04 21	18-05-91	DE < 6/16	SAS	Fit	
22	DRI Engr	Jijendra Kumar 60681	M	32 yrs 15-7-88	CLT.	07-04 21	18-05-91	DE < 6/16	SAS	Fit	
23	DRI Painter	Deepak Kumar 60682	M	24 yrs 2-1-97	Weld	07-04 21	18-05-91	DE < 6/16	SAS	Fit	
24	DRI Jr. Engr	Suryadeep Ghosh 60683	M	24 yrs 15-3-97	CLT.	09-04 21	18-05-91	DE < 6/16	SAS	Fit	

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## Record of Eye Examination

SL. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT	SIGNATURE OF OPHTHALMOLOGIST	REMARKS	
					Nature	Date of Employment				
25	DEE Welder	Prisunomali Das (60685)	M	20yrs 04.3.91	Welder	08-24/21	18.05.2021	RE<6/6 6/6	SAS	Fit
27	Pollet Electrical	Lorenali Debbari (60686)	M	20yrs 16.6.90	Pollet	08-21/21	18.05.2021	RE<6/6 6/6	SAS	Fit
23	Account Fe. Office	Souvik Maitra (60687)	M	25yrs 26.01.96	Account	09-04/21	18.05.2021	RE<6/6 6/6	SAS	Fit
28	Assistant Fitter	SK. Nasiruddin 60688	M	21yrs 04-12/99	Welder	09-21/21	18.05.2021	RE<6/6 6/6	SAS	Fit
29	DEE Electrician	Pranash Chandra Barik (60689)	M	21yrs 10.5.99	DEE	09-21/21	18.05.2021	RE<6/6 6/6	SAS	Fit

Dr. ....

Dr. Sanjay Das

Regd. no. ....

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Record of Eye Examination

SL. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result		
30	CPD Drg. Chemist	Souvan Goswami (60690)	M	24 yrs 20.12.90	operator monthly	09 $\frac{1}{21}$	18.12.10	RE < 6/16 6/16	S Das	fit
21	Dr. P Sr. Chemist	Kanadaker Mishra (60691)	M	28 yrs 21.10.92	Asst.	10 $\frac{1}{21}$	18.12.10	RE < 6/16 6/16	S Das	fit
32	Ferro Purifier	Apurba Pal (60692)	M	25 yrs 02.03.96	operator	10 $\frac{1}{21}$	18.12.10	RE < 6/16 6/16	S Das	fit
33	Ferro Purifier	Kirthan Mondal (60693)	M	24 yrs 22.03.94	operator	10 $\frac{1}{21}$	18.12.10	RE < 6/16 6/16	S Das	fit
34	CPD 1st class Railway conductor	Kirli Chandra Mondal (60714)	M	46 yrs 11.6.74	operator	15 $\frac{1}{21}$	18.12.10	RE < 6/16 6/16	S Das	fit

Dr. Sanjay Das

Regd. no. MBBS - D.O.  
(Ophthalmologist)

Rgn. - 42401  
Ophthalmologist Sing. of Seal

Record of Eye Examination

Sl. NO.	DEPARTMENT/WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT	SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment			
35	CPP Fitter	Saumitra Karmakar (60715)	M	46y 01/1989	Machinist	15.4.21	18.05.2021 REF < 6/6	S Das	Fit
34	Cap Machinist	Shukla Santuboy (60720)	M	42y 21/89	Cap	17.4.21	18.05.2021 REF < 6/6	S Das	Fit
33	Skil BHT operator	Paidhan Chandra Ghosai (60722)	M	31y 05 01/90	Operator	19.4.21	18.05.2021 REF < 6/6	S Das	Fit
32	Die A 25 opm	Santanu Singh (60723)	M	20y 15 21.4.2011	operator	19.4.21	18.05.2021 REF < 6/6	S Das	Fit
31	CPP Fitter + 4 opm	Biswajit Das (60723)	M	28y 10 28/97	operator	19.4.21	18.05.2021 REF < 6/6	S Das	Fit

Dr. *Sanjay Das*

Regd. no. *Dr. Sanjay Das*

MBBS - DLO  
(Ophthalmologist)

Rgno - 42401

Ophthalmologist Sing. of Seal

Record of Eye Examination

SL. NO.	DEPARTMENT/ WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION			EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result			
40	Sampalga	Sourav Kula (60726)	m	23 yrs 23/08	De	19.11.21	18.10.21	RAE 6/6	S Das	Fit	
41	Sampalga	Saurik Kula 60726	m	23 yrs 23/07	De	19.11.21	18.10.21	RAE 6/6	S Das	Fit	
42	Pallet Operator	Himanshu Sahu (60729)	m	29 yrs 29/09/91	De	19.11.21	18.10.21	RAE 6/6	S Das	Fit	
43	DET	Prityay Patra (60734)	m	20 yrs 20/10/2000	De	19.11.21	18.10.21	RAE 6/6	S Das	Fit	
44	welder Laxmi Chatterjee	Bapi mal (70735)	m	31 yrs 01/09/90	medicinal	21/04/21	18.10.21	RAE 6/6	S Das	Fit	

Dr. Souraj Das  
 Dr. Souraj Das  
 Regd. no. MBBS, M.D.  
 (Ophthalmologist)  
 Rgno - 42401

Ophthalmologist Sing. of Seal

Record of Eye Examination

SL. NO.	DEPARTMENT/WORK	NAME OF WORKER	SEX	AGE (on last birthday)	OCCUPATION		EXAMINATION OF EYE SIGHT		SIGNATURE OF OPHTHALMOLOGIST	REMARKS
					Nature	Date of Employment	Date	Result		
45	Coal-overseer	Sourabjit Mandal 60755	M	24 yrs 21/96	Med. Clin.	26.4.21	18.05.21	RE 6/6	S Das	Fit
46	CPL operator	Dharmajoy Roy 60754	M	24 yrs 10/96	EEI	26.4.21	18.05.21	RE 6/6	S Das	Fit
47	Dr. Engineer	Arup Ghosh (60764)	M	26 yrs 05/94	operator	28.4.21	18.05.21	RE 6/6	S Das	Fit
48	Dr. Operator	Subhrajit Dash (60765)	M	21 yrs 26/99	Dr.	27.4.21	18.05.21	RE 6/6	S Das	Fit
49	Dr. Operator	Sukanta Nayak (60767)	M	21 yrs 10/98	Dr.	27.4.21	18.05.21	RE 6/6	S Das	Fit

Dr. Sanjay Das  
 Regd. no. MBBS-DtO  
 (Ophthalmologist)  
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Record of Eye Examination

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					Nature	Date of Employment			
50	CPP Des Carpenter	Prabir Kumar Mahanti (60769)	M	26yrs 20-9/11	operative	27.4.21	18.03.21 RSE L11C	S Das	Fit
17	DDB Electrician	Sourash K. Mishra (60772)	M	13 13-11/12	ELI	28.4.21	18.03.21 RSE L11C	S Das	Fit

Dr. Sarinjay Das  
 Regd. no. MBBS - DLO  
 (Ophthalmologist)  
 Rgno - 42401  
 Ophthalmologist Sing. of Seal

**DECLARATION**

**REGISTER**

in compliance with Regulation No. 1181-EW-98-191 dated 23rd Nov. 1991  
 4. Date of birth: 16-06-1995  
 5. Medical examination and the results thereof

If declared unfit for work

1	2	3	4	5	6	7	8	9	10
Registration No.	Sex	Religion	Place of Birth	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)
60499	Male	Hindu	G.E.T.	21/04/95					
			G.E.T.	21/04/95					
			G.E.T.	21/04/95					

11	12	13	14	15	16	17	18
Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)	Place of Birth (as recorded in the register)
21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95
21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95
21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95	21/04/95

DR. M. N. SARKAR  
 M.D.S. (DENT)  
 E.M.D. (DENT)  
 20/06/21

DR. B. N. SARKAR  
 M.D.S. (DENT)  
 E.M.D. (DENT)  
 20/06/21

DR. S. S. SARKAR  
 M.D.S. (DENT)  
 E.M.D. (DENT)  
 20/06/21

DR. G. N. SARKAR  
 M.D.S. (DENT)  
 E.M.D. (DENT)  
 20/06/21

Approved by Ministry of Health and Family Welfare, Government of West Bengal.




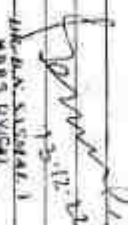


**REGISTER**

No.

an amended side Notification No. 1113-LW-IR-1/91 dated 23th Nov. 1991  
 4. Date of birth: 16-11-1977  
 5. Medical examination and the results thereof

If declared unfit for work

Name of Unit (where tested)	Result (Fit/Unfit)	Period of continued unfitness	Reason for each unfitness	Date of recovery Fit for work	Date of expiry of Certificate	Signature of Officer in Charge of Centre No.
B.P. 110/200mmHg Pulse- 25/min HT- 65cm. PFT P E R R- 490 L/min P R E- 420 L/min R E- 245 R.M. 2100/11 George - A. (Case)	FIT					 DR. R.N. SRINIVASAN M.B.B.S. DIVISION EXMO Camp, Vellore Camp Reg No - 2665
Bp- 115/80mmHg, Pulse- 80/min HT- 65cm, HT- 65cm PFT- R E R R- 490 L/min P R E- 430 L/min. R E < 64 . 616	FIT					 DR. M.A. PRASAD M.B.B.S. DIVISION EXMO Camp, Vellore Camp Reg No- 2665
Bp- 118/80mmHg, Pulse- 80/min HT- 67cm, HT- 67cm PFT- R E R R- 190 L/min P R E- 160 L/min B E < 616 616	FIT					 DR. H.S. SRINIVASAN M.B.B.S. DIVISION EXMO Camp, Vellore Camp Reg No- 2665
Bp- 105/85 mmHg, Pulse- 90/min HT- 71cm, HT- 83cm PFT- R E R R- 550 L/min P R E- 520 L/min HT- 105/85 105/85	FIT					 DR. H.S. SRINIVASAN M.B.B.S. DIVISION EXMO Camp, Vellore Camp Reg No - 2665

1. State No. of the Region of issue center: 60654  
 2. Name of center: MANVA GARDINIA SANGU  
 3. Set: 1911E

1. Periodical Labor Report A set of the Wage Board (Minimum Rate) 1/11

REGISTER

as amended vide Notification No. 1113A/W.R.(I)/1994 dated 27th Nov. 1994  
 4. Date of birth: 12-11-1979  
 5. Medical examination and the results thereof

Medical certificate

Sl. No.	Category	Wage Band	Grade	Grade Pay	Dearness Allowance	Post Allowance	Special Allowance	House Rent Allowance	Medical Allowance
1	DEP.	1	1	1	1	1	1	1	1
2	DEP.	1	1	1	1	1	1	1	1
3	DEP.	1	1	1	1	1	1	1	1
4	DEP.	1	1	1	1	1	1	1	1
5	DEP.	1	1	1	1	1	1	1	1
6	DEP.	1	1	1	1	1	1	1	1
7	DEP.	1	1	1	1	1	1	1	1
8	DEP.	1	1	1	1	1	1	1	1
9	DEP.	1	1	1	1	1	1	1	1
10	DEP.	1	1	1	1	1	1	1	1
11	DEP.	1	1	1	1	1	1	1	1
12	DEP.	1	1	1	1	1	1	1	1
13	DEP.	1	1	1	1	1	1	1	1
14	DEP.	1	1	1	1	1	1	1	1
15	DEP.	1	1	1	1	1	1	1	1
16	DEP.	1	1	1	1	1	1	1	1
17	DEP.	1	1	1	1	1	1	1	1
18	DEP.	1	1	1	1	1	1	1	1
19	DEP.	1	1	1	1	1	1	1	1
20	DEP.	1	1	1	1	1	1	1	1
21	DEP.	1	1	1	1	1	1	1	1
22	DEP.	1	1	1	1	1	1	1	1
23	DEP.	1	1	1	1	1	1	1	1
24	DEP.	1	1	1	1	1	1	1	1
25	DEP.	1	1	1	1	1	1	1	1
26	DEP.	1	1	1	1	1	1	1	1
27	DEP.	1	1	1	1	1	1	1	1
28	DEP.	1	1	1	1	1	1	1	1
29	DEP.	1	1	1	1	1	1	1	1
30	DEP.	1	1	1	1	1	1	1	1
31	DEP.	1	1	1	1	1	1	1	1
32	DEP.	1	1	1	1	1	1	1	1
33	DEP.	1	1	1	1	1	1	1	1
34	DEP.	1	1	1	1	1	1	1	1
35	DEP.	1	1	1	1	1	1	1	1
36	DEP.	1	1	1	1	1	1	1	1
37	DEP.	1	1	1	1	1	1	1	1
38	DEP.	1	1	1	1	1	1	1	1
39	DEP.	1	1	1	1	1	1	1	1
40	DEP.	1	1	1	1	1	1	1	1
41	DEP.	1	1	1	1	1	1	1	1
42	DEP.	1	1	1	1	1	1	1	1
43	DEP.	1	1	1	1	1	1	1	1
44	DEP.	1	1	1	1	1	1	1	1
45	DEP.	1	1	1	1	1	1	1	1
46	DEP.	1	1	1	1	1	1	1	1
47	DEP.	1	1	1	1	1	1	1	1
48	DEP.	1	1	1	1	1	1	1	1
49	DEP.	1	1	1	1	1	1	1	1
50	DEP.	1	1	1	1	1	1	1	1
51	DEP.	1	1	1	1	1	1	1	1
52	DEP.	1	1	1	1	1	1	1	1
53	DEP.	1	1	1	1	1	1	1	1
54	DEP.	1	1	1	1	1	1	1	1
55	DEP.	1	1	1	1	1	1	1	1
56	DEP.	1	1	1	1	1	1	1	1
57	DEP.	1	1	1	1	1	1	1	1
58	DEP.	1	1	1	1	1	1	1	1
59	DEP.	1	1	1	1	1	1	1	1
60	DEP.	1	1	1	1	1	1	1	1
61	DEP.	1	1	1	1	1	1	1	1
62	DEP.	1	1	1	1	1	1	1	1
63	DEP.	1	1	1	1	1	1	1	1
64	DEP.	1	1	1	1	1	1	1	1
65	DEP.	1	1	1	1	1	1	1	1
66	DEP.	1	1	1	1	1	1	1	1
67	DEP.	1	1	1	1	1	1	1	1
68	DEP.	1	1	1	1	1	1	1	1
69	DEP.	1	1	1	1	1	1	1	1
70	DEP.	1	1	1	1	1	1	1	1
71	DEP.	1	1	1	1	1	1	1	1
72	DEP.	1	1	1	1	1	1	1	1
73	DEP.	1	1	1	1	1	1	1	1
74	DEP.	1	1	1	1	1	1	1	1
75	DEP.	1	1	1	1	1	1	1	1
76	DEP.	1	1	1	1	1	1	1	1
77	DEP.	1	1	1	1	1	1	1	1
78	DEP.	1	1	1	1	1	1	1	1
79	DEP.	1	1	1	1	1	1	1	1
80	DEP.	1	1	1	1	1	1	1	1
81	DEP.	1	1	1	1	1	1	1	1
82	DEP.	1	1	1	1	1	1	1	1
83	DEP.	1	1	1	1	1	1	1	1
84	DEP.	1	1	1	1	1	1	1	1
85	DEP.	1	1	1	1	1	1	1	1
86	DEP.	1	1	1	1	1	1	1	1
87	DEP.	1	1	1	1	1	1	1	1
88	DEP.	1	1	1	1	1	1	1	1
89	DEP.	1	1	1	1	1	1	1	1
90	DEP.	1	1	1	1	1	1	1	1
91	DEP.	1	1	1	1	1	1	1	1
92	DEP.	1	1	1	1	1	1	1	1
93	DEP.	1	1	1	1	1	1	1	1
94	DEP.	1	1	1	1	1	1	1	1
95	DEP.	1	1	1	1	1	1	1	1
96	DEP.	1	1	1	1	1	1	1	1
97	DEP.	1	1	1	1	1	1	1	1
98	DEP.	1	1	1	1	1	1	1	1
99	DEP.	1	1	1	1	1	1	1	1
100	DEP.	1	1	1	1	1	1	1	1

Note - 1. Special requirements mentioned in attached forms.  
 2. Final entry should be made in last week of year.

Sl. No.	Remarks	Grade	Grade Pay	Dearness Allowance	Post Allowance	Special Allowance	House Rent Allowance	Medical Allowance
1	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
2	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
3	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
4	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
5	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
6	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
7	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
8	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
9	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
10	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
11	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
12	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
13	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
14	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
15	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
16	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
17	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
18	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
19	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
20	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
21	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
22	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
23	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
24	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
25	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
26	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
27	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
28	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
29	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
30	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
31	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit						
32	BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min, BP-115/80 mm Hg, RR-24/min, SpO2-96%, PR-68/min	Fit			</			











A. Serial No. in the Register of adult workers: **4666**  
 B. Name of worker: **ANTHONY SEVATHUR THIRUVAN**  
 C. Sex: **MALE**

Employed under Rules 61 & 64 of the West Bengal Industries Rules 1950

**UNIT III**

Month	Days of absence	Present days	Days of absence on production	No. working hours on production	Days of absence	Days of absence on production	Days of absence	Days of absence on production	Days of absence	Days of absence on production
Jan										
Feb										
Mar										
Apr										
May										
Jun										
Jul										
Aug										
Sep										
Oct										
Nov										
Dec										

1. Special remarks in the register to be entered in the column below.  
 2. This column is made for each month.

**REGISTER**

an annual roll for registration No. 1431, West Bengal (20) dated 28th Nov 1951  
 1. Date of birth: 11-02-1927  
 2. Address: ...  
 3. Method of notification and the serial thereof

If filled with for work

Serial No.	Name	Address	Age	Sex	Religion	Marital Status	Education	Occupation	Remarks
1	ANTHONY SEVATHUR THIRUVAN	...	...	MALE	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...

Handwritten signature and stamp at the bottom left of the register page.

Handwritten signature and stamp at the bottom center of the register page.

Handwritten signature and stamp at the bottom right of the register page.

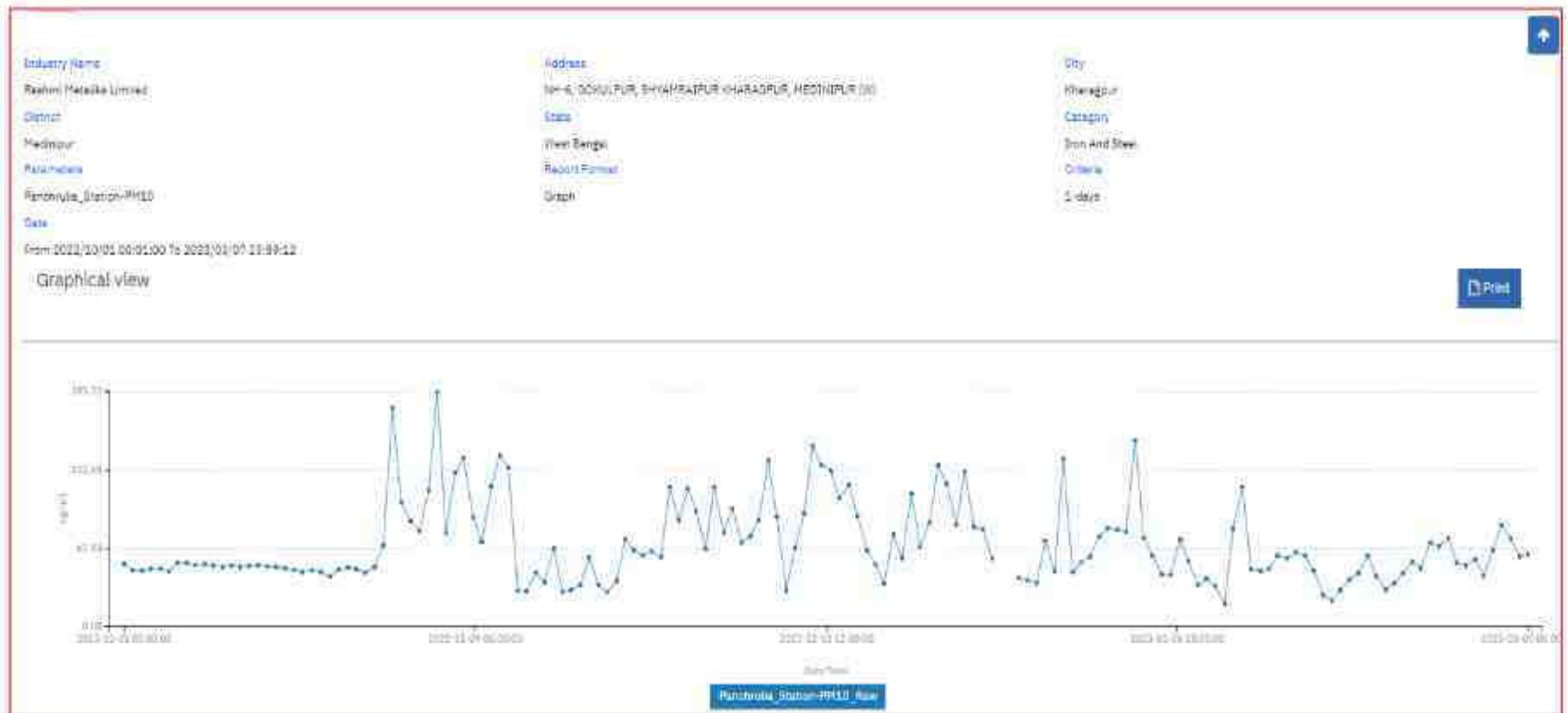
Handwritten signature and stamp at the bottom right of the register page.



# CONTINUOUS AMBIENT AIR QUALITY STATION DATA (OCTOBER 2022 TO MARCH 2023)

## STATION : PANCHRULIA

### ANNEXURE-V



PARAMETER-PM<sub>10</sub>



Industry Name

Rashmi Metals Limited

District

Medinipur

Parameters

Panchnala\_Station-PM2.5

Date

From 2022/03/03 00:00:00 To 2022/01/07 23:59:55

Address

NH-6, BOYULPUR, SHYAMRAIPUR, KHARAGPUR, MEDINIPUR (W)

State

West Bengal

Report Format

Graph

City

Kharagpur

Category

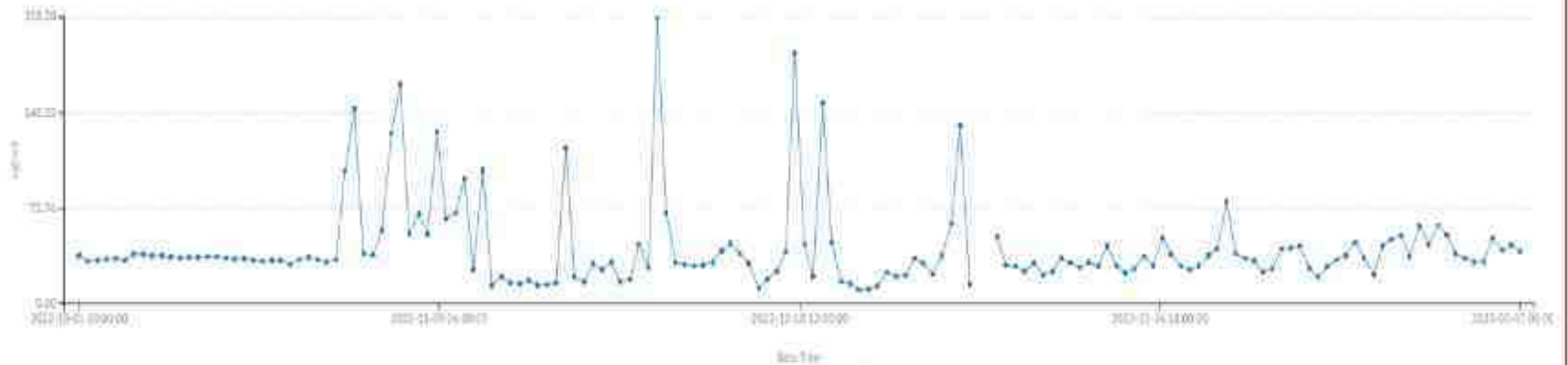
Iron and Steel

Criteria

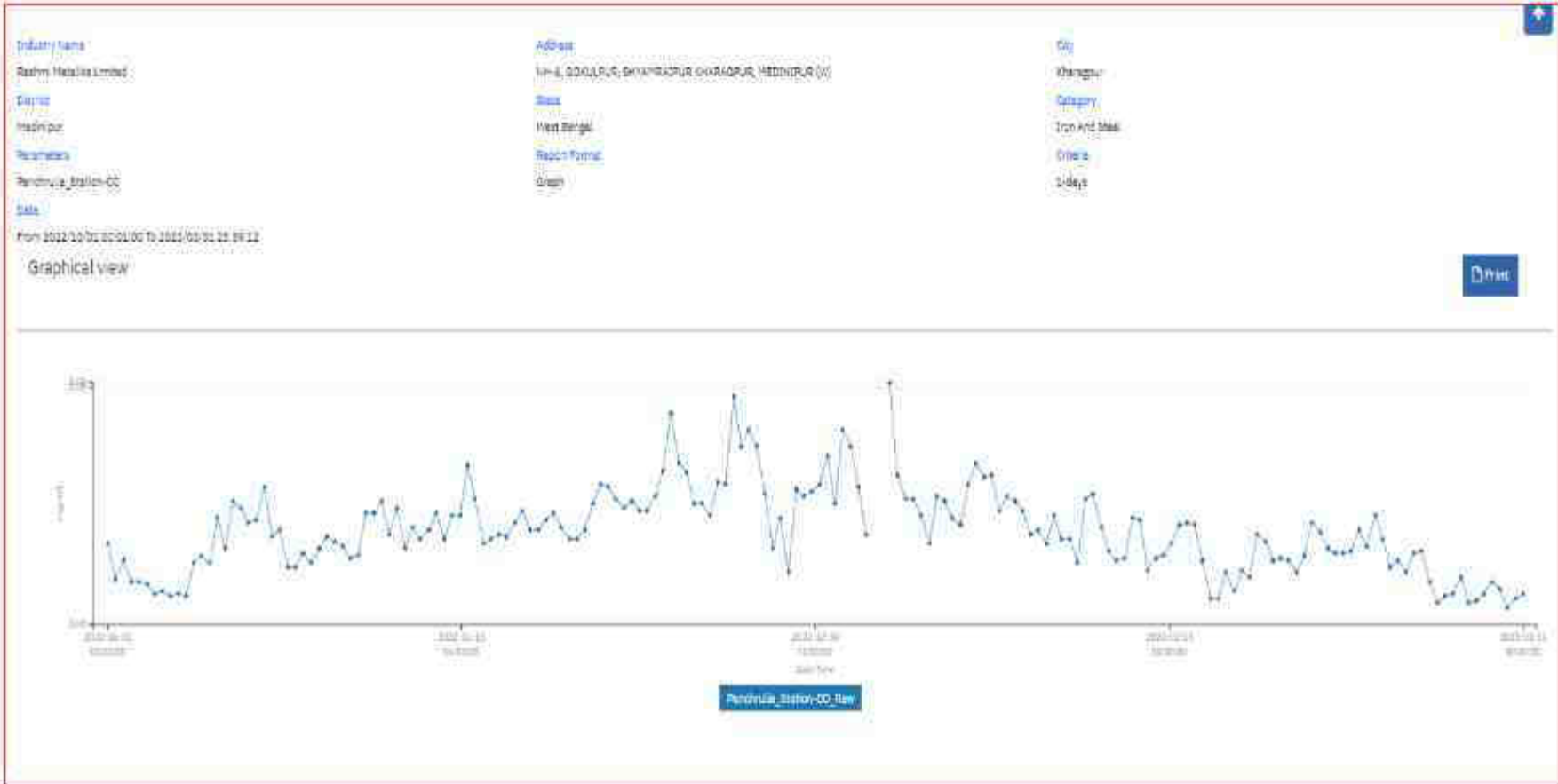
1-day



Graphical view



PARAMETER-PM<sub>2.5</sub>



PARAMETER-CO



Industry Name

Rashmi Metals Limited

District

Medinipur

Parameter

Panchula\_Station-NOx

Date

From 2022/10/01 00:00:00 To 2022/10/31 23:59:59

Address

NH-6, SOYULUR, SHYAMRAIPUR KHARAGPUR, MEDINIPUR (W)

State

West Bengal

Report Format

Graph

City

Kharagpur

Category

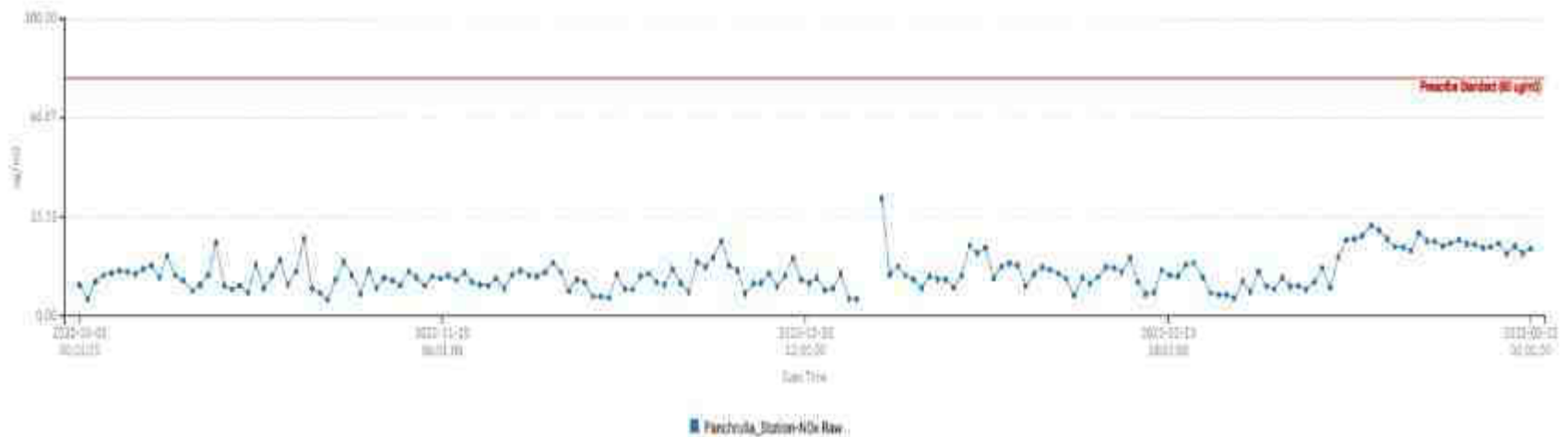
Iron And Steel

Criteria

1 day

Print

Graphical view



PARAMETER-NOx

Industry Name

Rashmi Metals Limited

Client

Hatimpur

Parameters

Panchrula\_Station-502

Date

From 2022/10/01 00:00:00 To 2023/03/30 23:59:12

Address

NH-6, DODIAPUR, SHYAMRAIPUR KHARAGPUR, MEDINIPUR (W)

State

West Bengal

Report Format

Graph

City

Kharagpur

Category

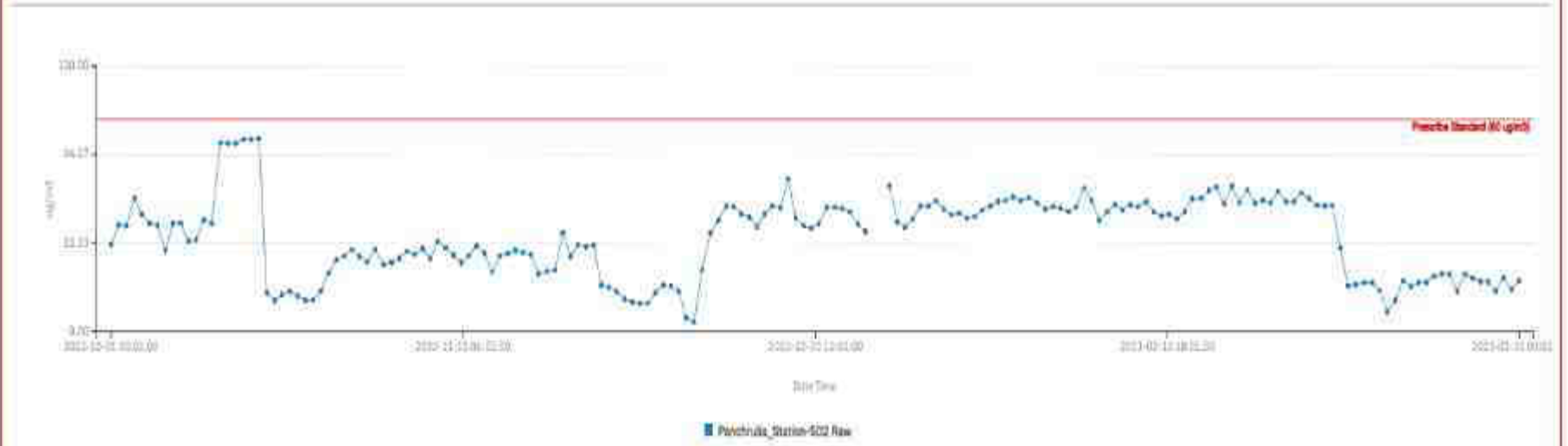
Iron And Steel

Criteria

2-Ways



Graphical view



PARAMETER-SO<sub>2</sub>



## STATION:-KALYANPUR

### Industry Name

Orissa Metals Private Limited\_Unit 1

### Address

House: HATHURA KISMAT and Amba, Gokulpo Village, Yamrapur, PO: STATA METALDIS ROAD.

### City

Kharagpur

### District

Medinipur

### State

West Bengal

### Category

Iron And Steel

### Parameter

Kalyanpur Village-PM10

### Report Format

Graph

### Criteria

1-Day

### Date

From 2022/10/01 00:00:00 To 2023/03/31 23:59:43

Graphical view

Print



PARAMETER-PM<sub>10</sub>

Industry Name

Orissa Metals Private Limited\_Unit-1

Address

House-MATHURA KDSNAT and Amba Gokulpu Village,hybraipur(PO)STATA METALINS ROAD

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameters

KharagpurVillage-PM2.5

Report Format

Graph

Criteria

1-day

Date

From 2022/10/05 00:00:00 To 2023/03/26 23:59:42



Graphical view



Activate Windows  
Go to Settings to activate Windows.

PARAMETER-PM<sub>2.5</sub>

Back

Industry Name

Greene Metalix Private Limited\_Unit-1

District

Medinipur

Facilities

Kalyanpur Village-CO

Date

From 2022/10/01 00:00:00 To 2023/09/30 23:59:42

Graphical view

Address

House:METHURA KEMAT and Anon,Gokhul's Village,Kalyanpur PO/ETA/ METALUR ROAD

State

West Bengal

Report Format

Graph

City

Kharsipur

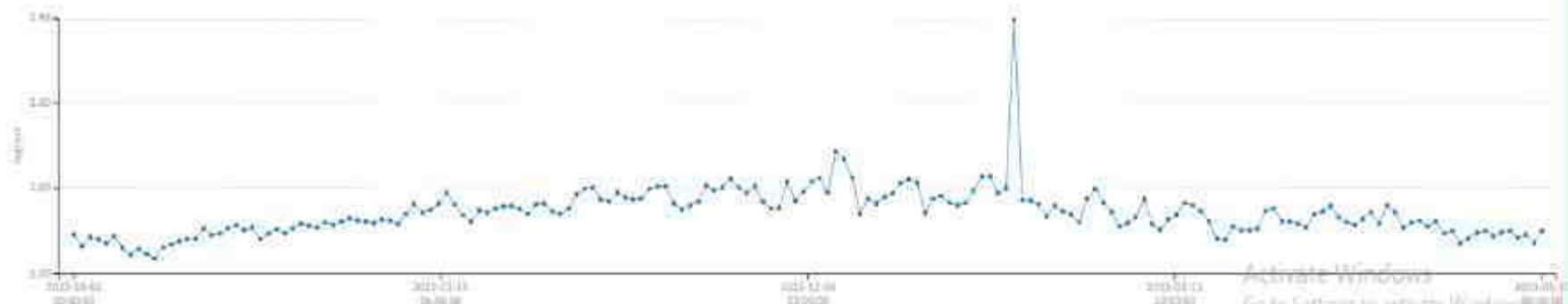
Category

Iron And Steel

Criteria

1-1days

Print



Kalyanpur Village-CO\_Rev

PARAMETER-CO

Back



Industry Name

Dinesh Metals Private Limited, Unit-2

Address

House-RATHURA KISMAT and Amba Gokulpu Village,hyamraipur,PO:STATTA METALIKS ROAD

City

Kharagpur

District

Haldinipur

State

West Bengal

Category

Iron And Steel

Parameters

Kalyanpur Village-NOx

Report Format

Graph

Criteria

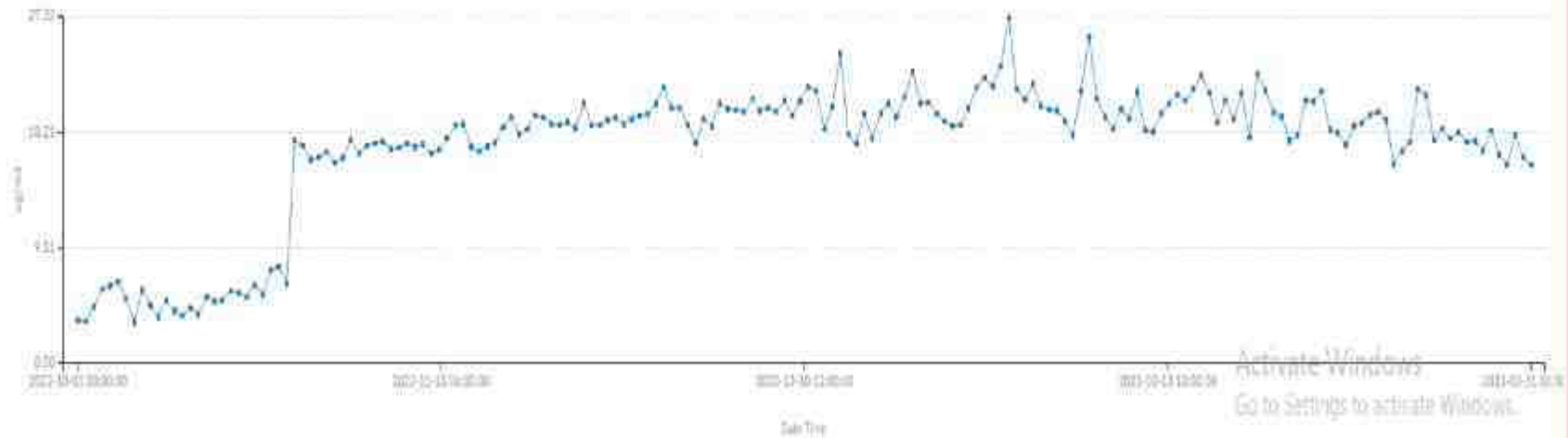
3-day

Date

From 2022/10/01 00:00:00 To 2023/03/31 23:59:42

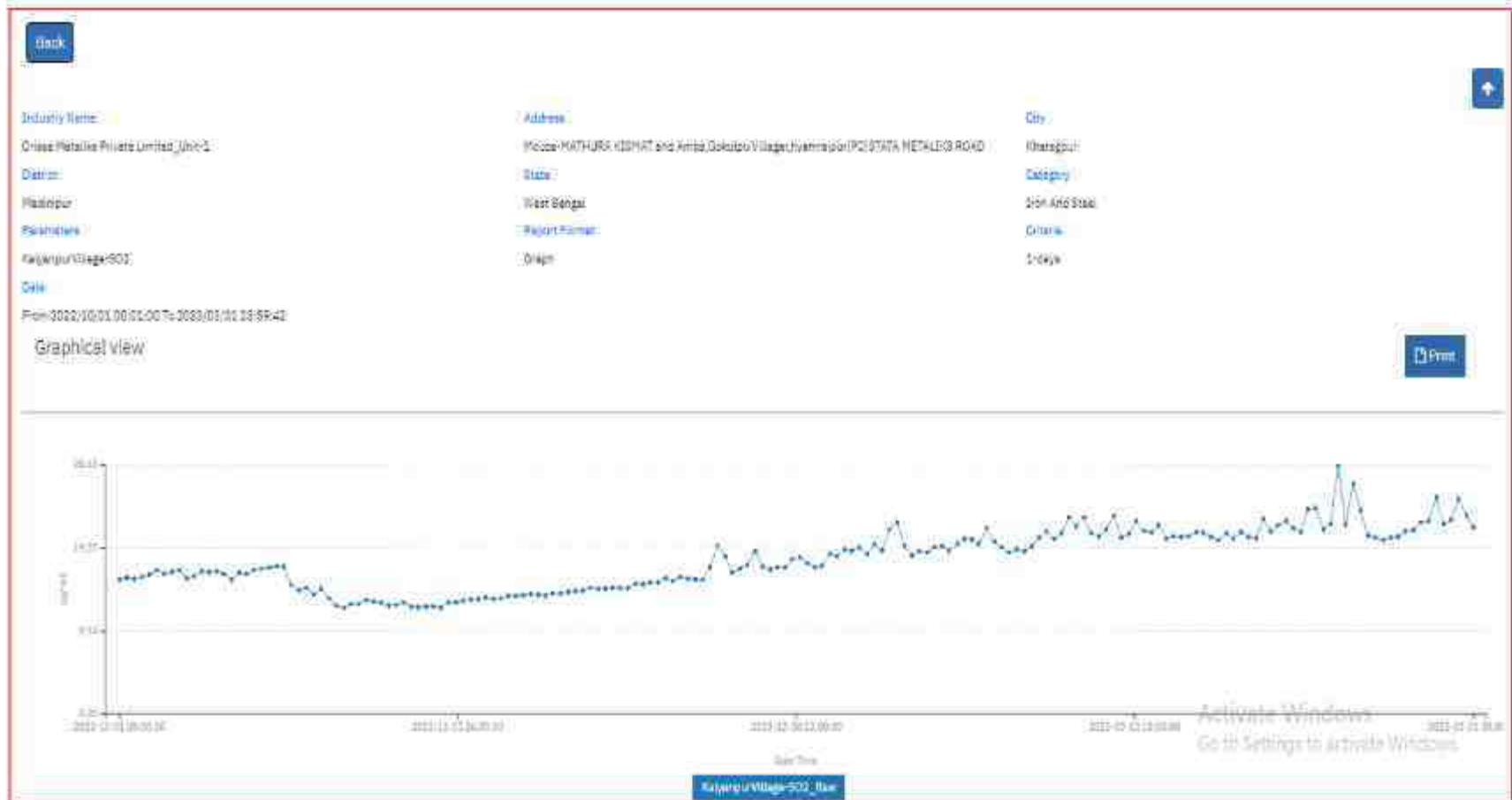
Graphical view

Print



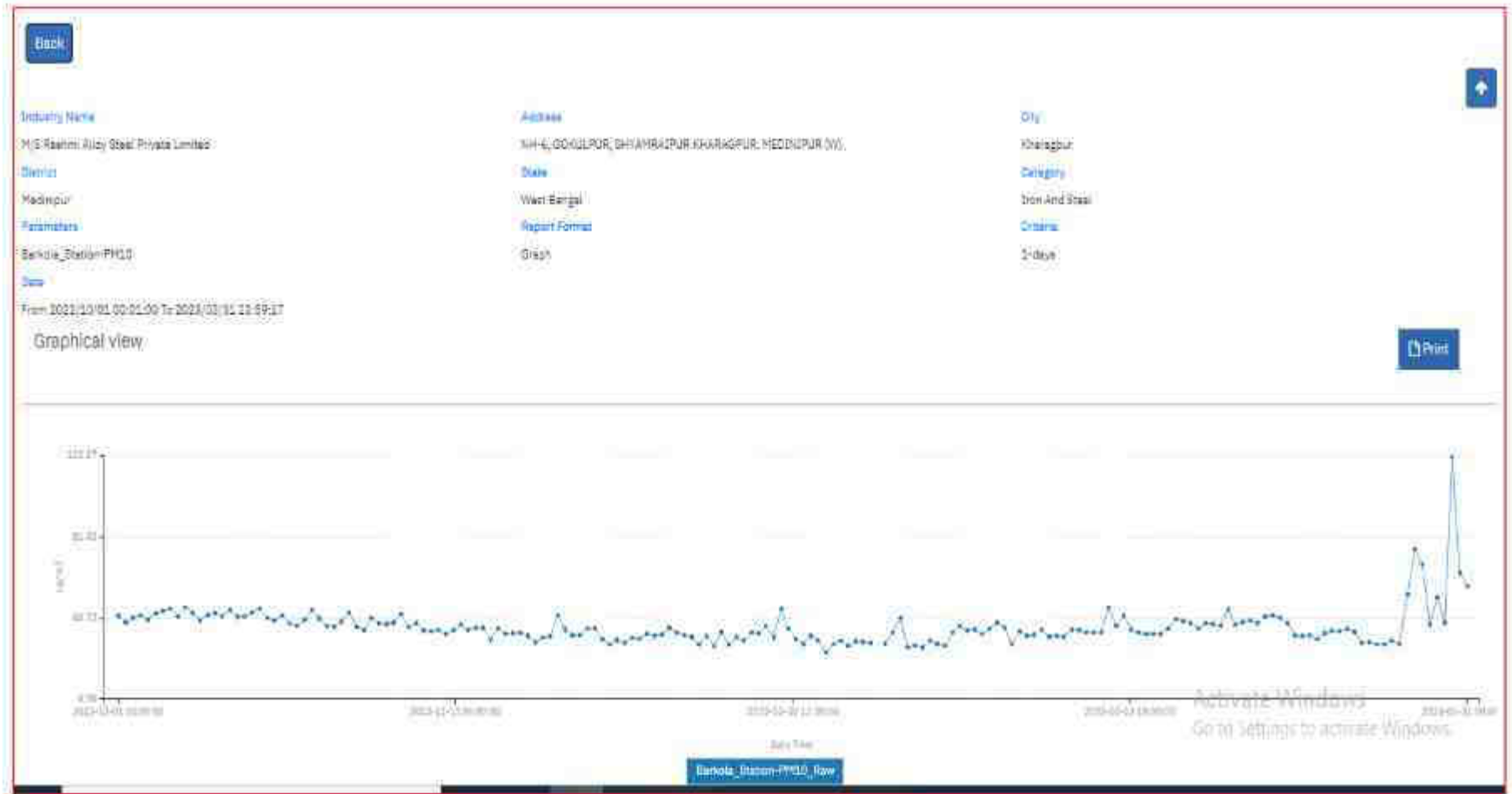
Kalyanpur Village-NOx\_Box

**PARAMETER-NOx**



PARAMETER-SO2

## STATION : BARKOLA



PARAMETER-PM<sub>10</sub>

Back



Industry Name

M/s. Harnir Alloy Steel Private Limited

Address

W/O, GURUPUK, SHYAMKALPURIKAPAKRISHN, MEDINIPUR (W)

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameter

Barkola\_Station-PM2.5

Report Format

Graph

Criteria

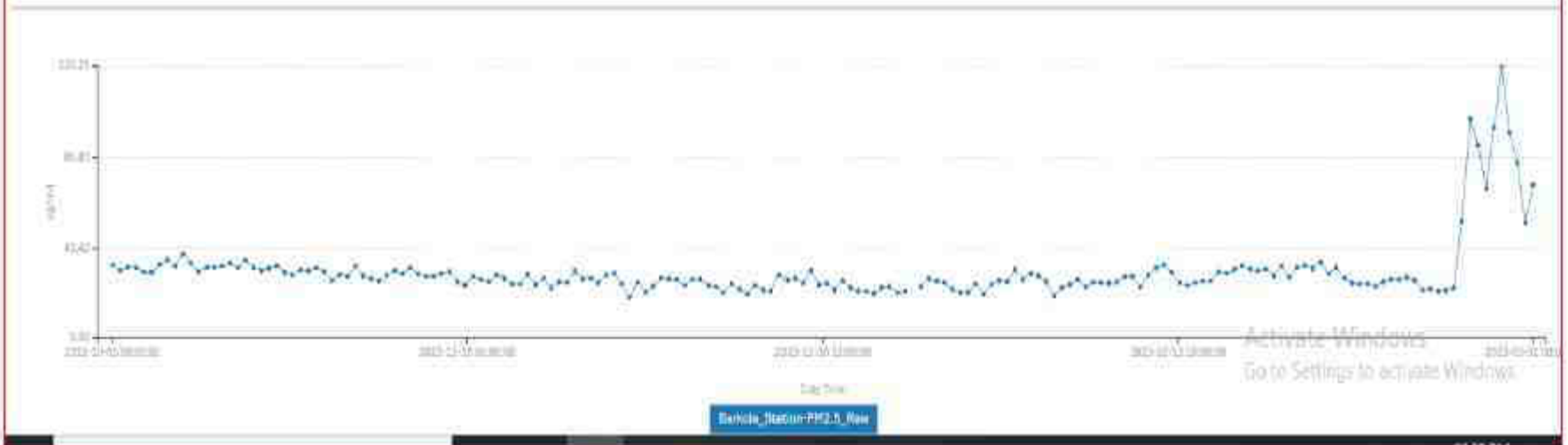
24hrs

Date

From 2022/10/01 00:00:00 To 2022/10/31 23:59:57

Graphical view

Print



PARAMETER-PM<sub>2.5</sub>

Back



**Industry Name**

H S Pathni Alloy Steel Private Limited

**District**

Medinipur

**Parameters**

Parameter-00

**Date**

From 2022/10/01 00:00:00 To 2023/03/01 23:59:57

**Address**

AD-1, DOLUPLU, BHANSAIPUR KHARASPUR, MEDINIPUR (W)

**State**

West Bengal

**Report Format**

Graph

**City**

Kharagpur

**Category**

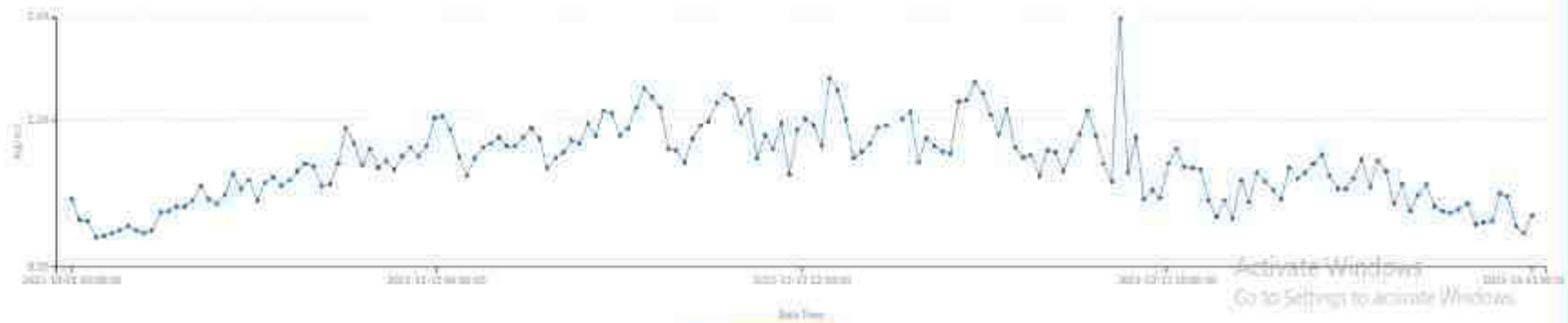
Iron And Steel

**Criteria**

3-DAY

Print

Graphical view



Parameter-00\_00k

Activate Windows  
Go to Settings to activate Windows.

PARAMETER-CO





**PARAMETER-NOx**

Back



Industry Name

S Rathi Alloy Steel Private Limited

Address

NH-6, SOKLIPUR, SHYAMRAIPUR KHARASPUR, MEDINIPUR (W)

City

Kharagpur

Pincode

731001

State

West Bengal

Category

Iron And Steel

Parameters

Report Format

Criteria

Parameter: SO2

Graph

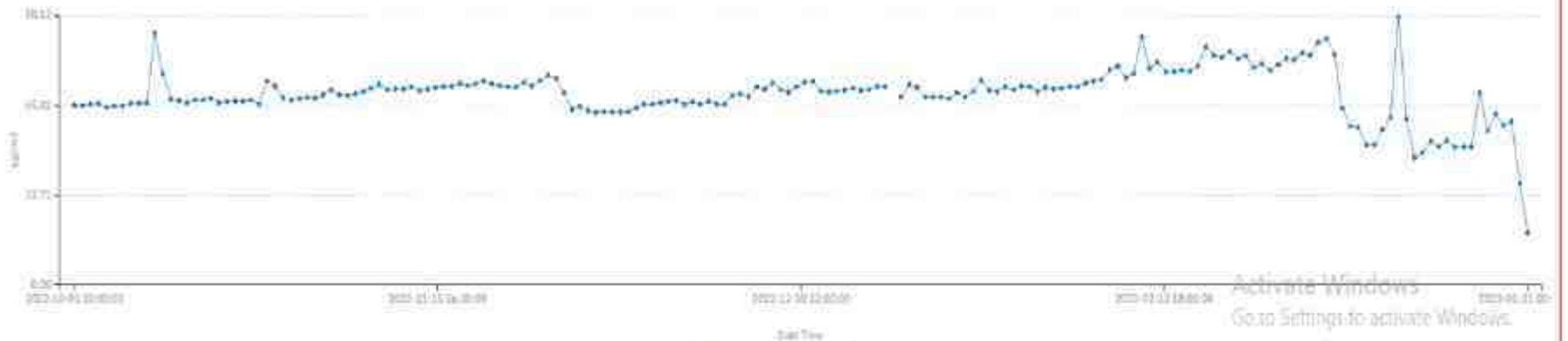
1-days

Date

from 2023/03/01 00:00:00 To 2023/03/31 23:59:57

Print

Graphical view



Barkala\_Station-SO2\_Raw

PARAMETER-SO2

## Station: Rajogram

### Industry Name

Orissa Alloy Steel Pvt Ltd

### Address

Vij- Gokulpur,PO-Shyamraipur,PS-Kharagpur (J) Dist-Westim Medinipur Pin-721301

### City

Kharagpur

### District

Medinipur

### State

West Bengal

### Category

Iron And Steel

### Parameters

Rajogram-PM10

### Report Format

Graph

### Criteria

3-days

### Date

From:2022/12/15 00:00:00 To:2023/03/08 23:59:58

Graphical view

Print



Parameter: PM10

Industry Name

Orissa Alloy Steel Pvt Ltd

Address

VII- Gokulpur,PO-Shyamnipur,PS-Kharagpur (L) Dist- Paschim Medinipur Pin- 721301

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameters

Rajogram-PM2.5

Report Format

Graph

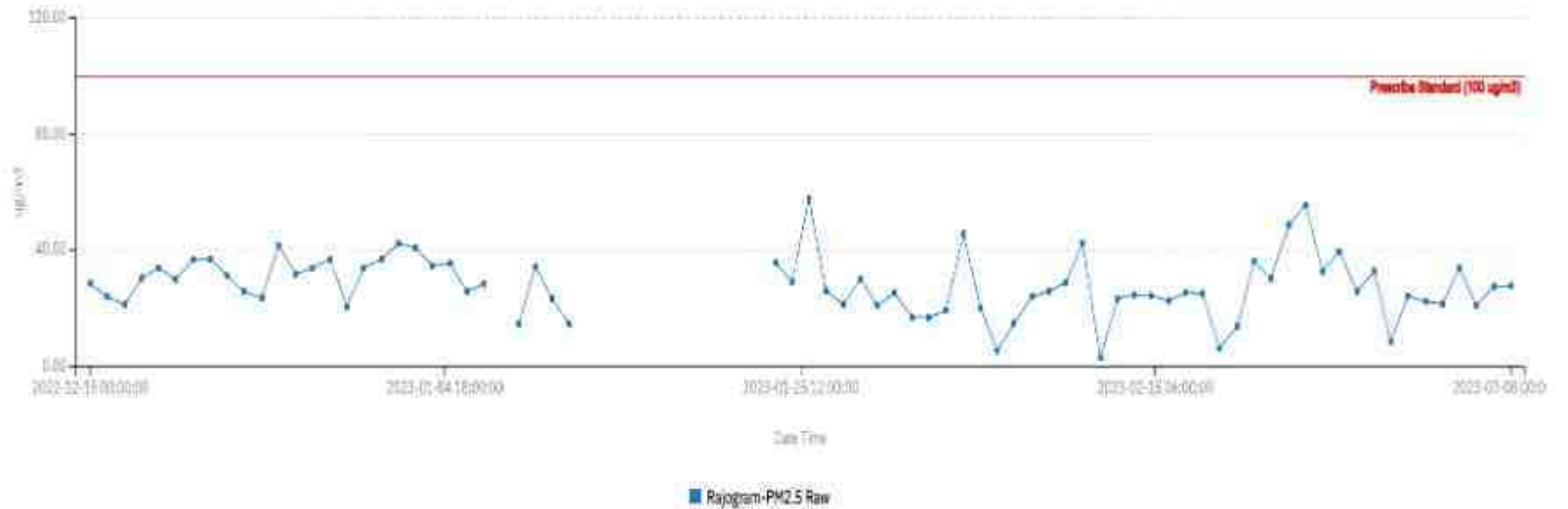
Criteria

5-days

Date

From 2022/12/15 00:00:00 To 2023/03/08 23:59:30

Graphical view



Parameter- PM2.5

Industry Name

Orissa Alloy Steel Pvt Ltd

Address

VII- Gokulpur,PO-Shyamraipuri,PS-Kharagpur (I) Dist-Paschim Medinipur Pin-721301

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameters

Rajogram-SO2

Report Format

Graph

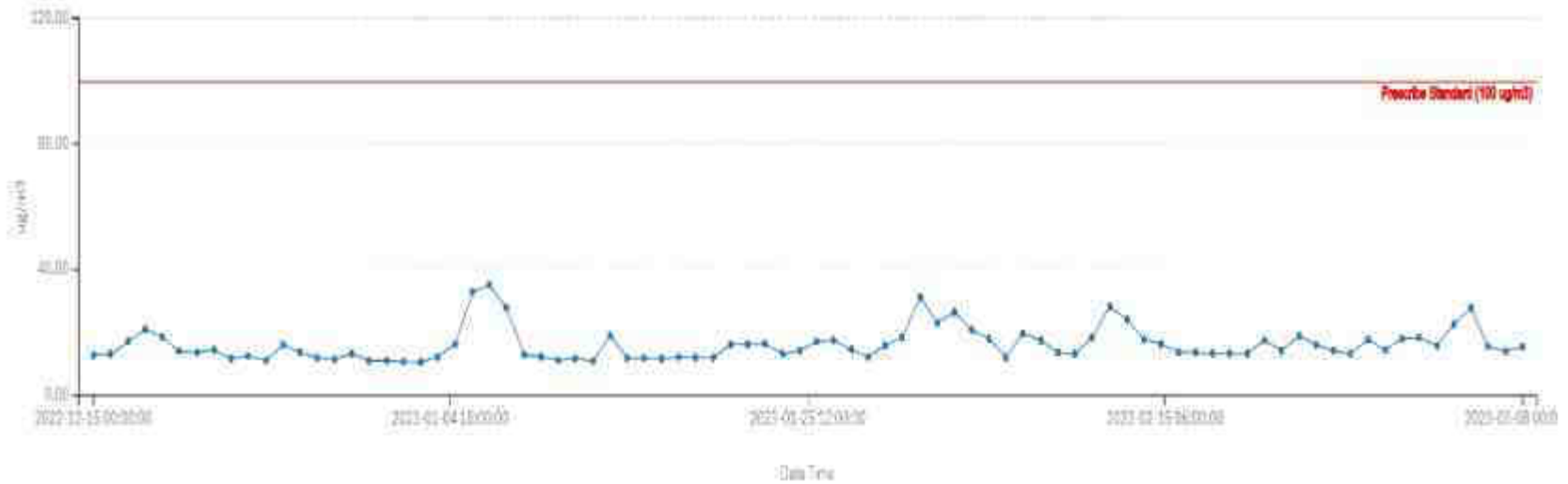
Criteria

1-days

Date

From 2022/12/15 00:00:00 To 2023/03/08 23:59:58

Graphical view



Rajogram-SO2 Raw

Parameter- SO2

Industry Name

Orissa Alloy Steel Pvt Ltd

Address

W/O- Gokulpur PO-Sijamtaiout-PS-Kharagpur (U) Dist-Paschim Medinipur Pin-721301

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameters

Reogram-NOx

Report Format

Graph

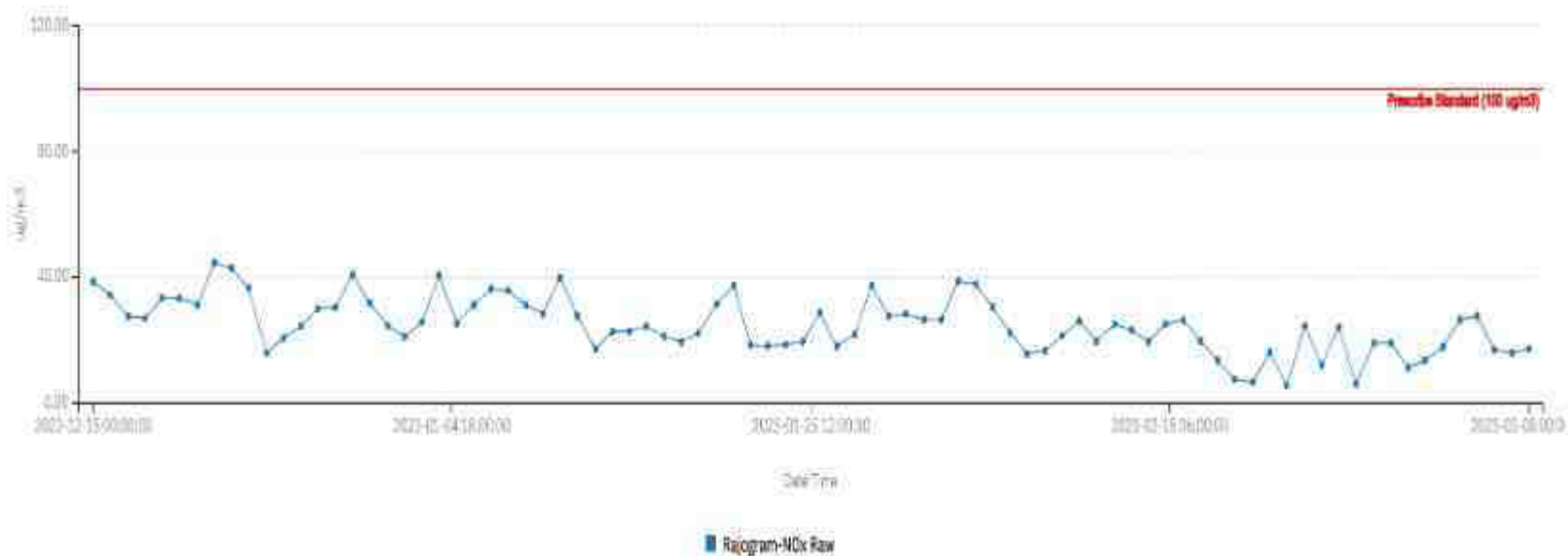
Criteria

1-days

Date

From 2022/12/15 00:00:00 To 2023/03/08 23:59:38

Graphical view



Parameter- NOx

Industry Name

Orissa Alloy Steel Pvt Ltd

Address

Vill: Gokulpur,PO:Shyamraipur,PS:Kharagpur (L)Dist:Paschim Medinipur Pin-721301

City

Kharagpur

District

Medinipur

State

West Bengal

Category

Iron And Steel

Parameters

Rajogram-CO

Report Format

Graph

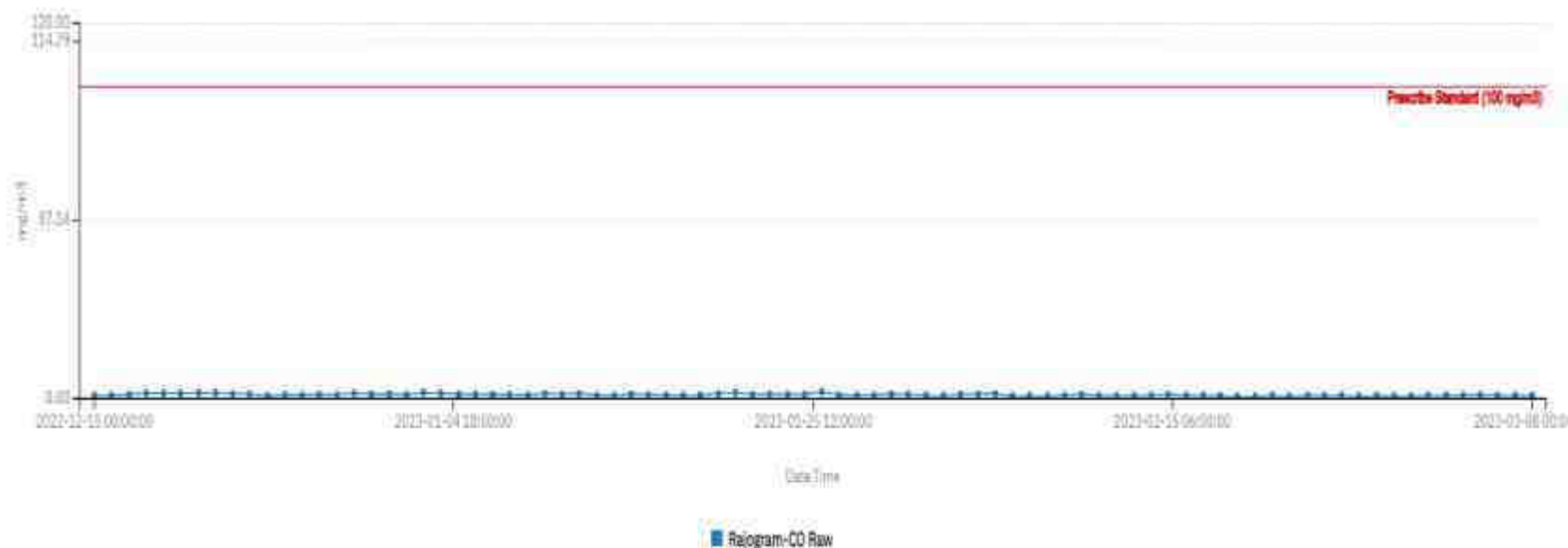
Criteria

1-days

Date

From 2022/12/15 00:00:00 To 2023/03/08 23:59:38

Graphical view



Parameter- CO



## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  <b>M/s. Orissa Alloy Steel Pvt Limited.</b>  Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No.	: QLS/P-29/23-24/C/05
	Date	: 27.04.2023
	Sample No.	: QLS/P-29/23-24/05-12
	Date of Performance	: 16.04.2023-26.04.2023
	Sample Description	: Fugitive Air
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
	Dated	: 06.03.2023

### Analysis Result of Fugitive Air

Sampling Done by: C.Sahoo		Sampling done as per : CPCB Guidelines (Volume-1)	
Environmental Condition : Clear & Sunny			
Sample No.	Location	Date of Sampling	(SPM) in $\mu\text{g}/\text{m}^3$
05	DRI & CPP Plant Area	20.03.2023	326
06	Pellet Plant Area	20.03.2023	263
07	Ferro Alloy Plant	20.03.2023	312
08	Raw Material Yard	20.03.2023	526
09	Railway Siding	21.03.2023	249
10	DIP Plant Area	21.03.2023	223
11	SMS Area	21.03.2023	220
12	Coke Oven Site	21.03.2023	258
<b>NOTE:</b> Fugitive emission Standard - $4000 \mu\text{g}/\text{m}^3$ as per Environment (Protection) rules, 1986			

Report Prepared By:

for Qualissure Laboratory Services

Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

-----End of the Report-----

- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced without the permission of Qualissure Laboratory Services.
- The reserved part of sample(s) except perishable sample(s), shall be retained for 30 days from the date of issue of the Test Report.





DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  <b>M/s. Orissa Alloy Steel Pvt Limited.</b>  Address: VIII- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No.	: QLS/P-29/22-23/C/04
	Date	: 27.04.2023
	Sample No.	: QLS/P-29/22-23/04
	Sample Description	: Ambient Air
	Date of performance	: 22.03.2023-27.03.2023
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
	Dated	: 06.03.2023

## Analysis Result

Location : Near Walipur Village		Date of sampling: 20.03.2023-21.03.2023		
Sampling Done by: C.Sahoo/P.Mahato		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	Pollutants	Result	LIMIT	Method of Test Reference
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	76	100	IS: 5182 (Part-23)-(RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	35	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	7.5	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	31.6	80	IS: 5182 (Part- 6)- (RA-2017)
5	Carbon Monoxide (CO) in µg/m <sup>3</sup>	892	2000	IS: 5182 (Part- 10)- (RA-2017)
NOTE:Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By:

for Qualissure Laboratory Services

Reviewed &amp; Authorized By


 Benimadhab Goral, Chemist  
 (Authorized Signatory)

-----End of the Report-----

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> <b>M/s. Orissa Alloy Steel Pvt Limited.</b> Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No. : QLS/P-29/22-23/C/03 Date : 27.04.2023 Sample No. : QLS/P-29/22-23/03 Sample Description : Ambient Air Date of performance : 22.03.2023-27.03.2023 Ref No. : OASPL/QUALISSURE/WO/22-23/01 Dated : 06.03.2023
--	--

## Analysis Result

Location : Near Rajagram Village		Date of sampling: 20.03.2023-21.03.2023		
Sampling Done by: C.Sahoo/P.Mahato		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	Pollutants	Result	LIMIT	Method of Test Reference
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	75	100	IS: 5182 (Part-23)-(RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	39	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	7.1	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	29.4	80	IS: 5182 (Part-6)- (RA-2017)
5	Carbon Monoxide (CO) in µg/m <sup>3</sup>	881	2000	IS: 5182 (Part-10)- (RA-2017)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By:

*Balkar*

for Qualissure Laboratory Services  
Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

-----End of the Report-----

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## TEST REPORT

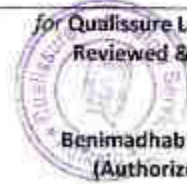
<b>Name &amp; Address Of the Customer :</b> <b>M/s. Orissa Alloy Steel Pvt Limited.</b> Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No. : QLS/P-29/22-23/C/02 Date : 27.04.2023 Sample No. : QLS/P-29/22-23/02 Sample Description : Ambient Air Date of performance : 22.03.2023-27.03.2023 Ref No. : OASPL/QUALISSURE/WO/22-23/01 Dated : 06.03.2023
--	--

## Analysis Result

Location : Near Plant Main Gate		Date of sampling: 20.03.2023-21.03.2023		
Sampling Done by: C.Sahoo/P.Mahato		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	Pollutants	Result	LIMIT	Method of Test Reference
1	Particulate matter (<10µm) in µg/m <sup>3</sup>	80	100	IS: 5182 (Part-23)-(RA-2017)
2	Particulate matter (<2.5µm) in µg/m <sup>3</sup>	43	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in µg/m <sup>3</sup>	8.9	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in µg/m <sup>3</sup>	33.1	80	IS: 5182 (Part- 6)- (RA-2017)
5	Carbon Monoxide (CO) in µg/m <sup>3</sup>	1007	2000	IS: 5182 (Part- 10)- (RA-2017)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized By



Benimadhab Goral, Chemist  
(Authorized Signatory)

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DOC NO : QLS/SAMP/08-A/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> <b>M/s. Orissa Alloy Steel Pvt Limited.</b> Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No. : QLS/P-29/22-23/C/01 Date : 27.04.2023 Sample No. : QLS/P-29/22-23/01 Sample Description : Ambient Air Date of performance : 22.03.2023-27.03.2023 Ref No. : OASPL/QUALISSURE/WO/22-23/01 Dated : 06.03.2023
--	--

## Analysis Result

Location : Near Bargal Village		Date of sampling: 20.03.2023-21.03.2023		
Sampling Done by: C.Sahoo/P.Mahato		Sampling done as per : CPCB Guidelines (Volume-1)		
Environmental Condition : Clear & Sunny				
Sl. No.	Pollutants	Result	LIMIT	Method of Test Reference
1	Particulate matter (<10 $\mu$ m) in $\mu$ g/m <sup>3</sup>	68	100	IS: 5182 (Part-23)-(RA-2017)
2	Particulate matter (<2.5 $\mu$ m) in $\mu$ g/m <sup>3</sup>	40	60	USEPA CFR-40,Part-50, Appendix-L
3	Sulphur dioxide (SO <sub>2</sub> ) in $\mu$ g/m <sup>3</sup>	6.9	80	IS: 5182 (Part-2)-2001, (RA-2017)
4	Nitrogen dioxide (NO <sub>2</sub> ) in $\mu$ g/m <sup>3</sup>	28.7	80	IS: 5182 (Part- 6)- (RA-2017)
5	Carbon Monoxide (CO) in $\mu$ g/m <sup>3</sup>	744	2000	IS: 5182 (Part- 10)- (RA-2017)
<b>NOTE:</b> Limit as per CPCB notification, New Delhi, 18th November 2009, for Ambient air quality.				

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

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DOC NO : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  <b>M/s. Orissa Alloy Steel Pvt Limited.</b>  Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No.	: QLS/P-29/22-23/C/18
	Date	: 25.04.2023
	Sample No.	: QLS/P-29/22-23/18
	Sample Description	: Effluent Water
	Sample Mark	: ETP Outlet
	Sample Drawn On	: 21.03.2023
	Date of Performance	: 22.03.2023-27.03.2023
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
Dated	: 06.03.2023	

## Analysis Result

Sl. No.	Parameter	TEST METHOD	Result	Limit as per CPCB for discharge of effluents	
				Inland Surface Water	Public Sewers
1.	pH at 25 <sup>o</sup> C	APHA 23 <sup>rd</sup> Edition-2017, 4500 H+	7.23	5.5 to 9.0	5.5 to 9.0
2.	Total Suspended Solid(as TSS) in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 2540 D	26	100	600
3.	Chemical Oxygen Demand (as COD) mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5220B	60	250	---
4.	Biochemical Oxygen Demand (as BOD) mg/l	IS 3025 (Part 44)-1993, RA:2014	15	30	350
5.	Oil & Grease in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5520A	<1.4	10	20

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized ByBishnupriya Banerjee, Chemist  
(Authorized Signatory)

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DOC NO : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> <b>M/S. Orissa Alloy Steel Pvt Limited.</b> Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	<b>Report No.</b> : QLS/P-29/22-23/C/17 <b>Date</b> : 25.04.2023 <b>Sample No.</b> : QLS/P-29/22-23/17 <b>Sample Description</b> : Effluent Water <b>Sample Mark</b> : ETP Inlet <b>Sample Drawn On</b> : 21.03.2023 <b>Date of Performance</b> : 22.03.2023-27.03.2023 <b>Ref No.</b> : OASPL/QUALISSURE/WO/22-23/01 <b>Dated</b> : 06.03.2023
---	---

## Analysis Result

Sl. No.	Parameter	TEST METHOD	Result	Limit as per CPCB for discharge of effluents	
				Inland Surface Water	Public Sewers
1.	pH at 25 <sup>o</sup> C	APHA 23 <sup>rd</sup> Edition-2017, 4500 H+	7.95	5.5 to 9.0	5.5 to 9.0
2.	Total Suspended Solid(as TSS) in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 2540 D	72	100	600
3.	Chemical Oxygen Demand (as COD) mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5220B	220	250	---
4.	Biochemical Oxygen Demand (as BOD) mg/l	IS 3025 (Part 44)-1993, RA:2014	61	30	350
5.	Oil & Grease in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5520A	6.8	10	20

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized By



Bishnupriya Banerjee, Chemist  
(Authorized Signatory)

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DOC NO : QLS/SAMP/08-D/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  <b>M/s. Orissa Alloy Steel Pvt Limited.</b>  Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No.	: QLS/P-29/22-23/C/16
	Date	: 27.04.2023
	Sample No.	: QLS/P-29/22-23/16
	Sample Description	: Effluent Water
	Sample Mark	: STP Outlet
	Sample Drawn On	: 21.03.2023
	Date of Performance	: 22.03.2023-27.03.2023
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
Dated	: 06.03.2023	

## Analysis Result

Sl. No.	Parameter	TEST METHOD	Result	Limit as per CPCB for discharge of effluents	
				Inland Surface Water	Public Sewers
1.	pH at 25 <sup>o</sup> C	APHA 23 <sup>rd</sup> Edition-2017, 4500 H+	7.87	5.5 to 9.0	5.5 to 9.0
2.	Total Suspended Solid(as TSS) in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 2540 D	28	100	600
3.	Chemical Oxygen Demand (as COD) mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5220B	59	250	---
4.	Biochemical Oxygen Demand (as BOD) mg/l	IS 3025 (Part 44)-1993, RA:2014	21	30	350
5.	Oil & Grease in mg/l	APHA 23 <sup>rd</sup> Edition-2017, 5520A	1.8	10	20

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized By



Bishnupriya Banerjee, Chemist  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>	ULR No.	: TC6271230000000509F
<b>M/s. Orissa Alloy Steel Pvt Limited.</b>	Report No.	: QLS/P-29/22-23/C/15
Address: Vill- Gokulpur, P.O- Shyamraipur,	Date	: 28.04.2023
P.S- Kharagpur (I), Paschim Medinipur-	Sample No.	: QLS/P-29/22-23/15
721301, West Bengal.	Sample Description	: Ground Water
	Sample Mark	: Tap Near Administrative Building
	Sample Drawn On	: 21.03.2023
	Date of performance	: 22.03.2023-27.03.2023
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
	Dated	: 06.03.2023

## Analysis Result

### (A) Microbiological Analysis

Sl. No.	Characteristic	Limit as per IS 10500; 2012 Amd. 2	Test Method	Result
1.	Total Coliform Bacteria/100ml	Not Detectable	IS 15185-2016	Not Detected
2.	E Coli/100ml	Not Detectable	IS 15185-2016	Not Detected

### (B) Chemical Analysis

Sl. No.	Test Parameter	Test Method	IS 10500:2012 Amd. No. 1 & 2		Result
			Acceptable Limit	Permissible Limit	
1.	Colour in Hazen Units	IS 3025 (Part 4): 1983 (RA 2012)	5	15	<5
2.	Odour	IS 3025 (Part 5): 1983 (RA 2012)	Agreeable	Agreeable	Agreeable
3.	pH Value at 25°C	IS 3025 (Part 11): 1984 (RA 2012)	6.5-8.5	No Relaxation	7.23
4.	Turbidity in NTU	IS 3025 (Part 10): 1984 (RA 2012)	1	5	<1.0
5.	Total Dissolved Solids (as TDS) in mg/l	IS 3025 (Part 16): 1984 (RA 2012)	500	2000	424
6.	Aluminium (as Al) in mg/l	IS 3025 (Part 55): 2003 (RA 2014)	0.03	0.2	<0.01
7.	Ammonia (as NH <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988 (RA 2014)	0.5	No Relaxation	<0.5
8.	Calcium (as Ca) in mg/l	IS 3025 (Part 40): 1991 (RA 2014)	75	200	79.2
9.	Chloride (as Cl) in mg/l	IS 3025 (Part 32): 1988 (RA 2014)	250	1000	87.2
10.	Copper (as Cu) in mg/l	IS 3025 (Part 42): 1992 (RA 2014)	0.05	1.5	<0.02
11.	Fluoride (as F) in mg/l	APHA 23rd Edition 2017, 4500 F D	1.0	1.5	<0.1
12.	Free Residual Chlorine in mg/l	IS 3025 (Part 26): 1986 (RA 2014)	0.2	1.0	<0.1
13.	Iron (as Fe) in mg/l	IS 3025 (Part 53): 1988 (RA 2014)	1.0	No Relaxation	0.43
14.	Magnesium (as Mg) in mg/l	IS 3025 (Part 46): 1994 (RA 2014)	30	100	40.1
15.	Manganese (as Mn) in mg/l	IS 3025 (Part 59): 2006 (RA 2014)	0.1	0.3	<0.05
16.	Nitrate (as NO <sub>3</sub> ) in mg/l	IS 3025 (Part 34): 1988 (RA 2014)	45	No Relaxation	1.42
17.	Sulphate (as SO <sub>4</sub> ) in mg/l	IS 3025 (Part 24): 1986 (RA 2014)	200	400	32.3
18.	Alkalinity (as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 23): 1986 (RA 2014)	200	600	294.8
19.	Total Hardness (as CaCO <sub>3</sub> ) in mg/l	IS 3025 (Part 21): 2013	200	600	365.2
20.	Cadmium (as Cd) in mg/l	IS 3025 (Part 41): 1992 (RA 2014)	0.003	No Relaxation	<0.002
21.	Cyanide (as Cn) in mg/l	IS 3025 (Part 27): 1986 (RA 2014)	0.05	No Relaxation	<0.02
22.	Lead (as Pb) in mg/l	IS 3025 (Part 47): 1994 (RA 2014)	0.01	No Relaxation	<0.01
23.	Mercury (as Hg) in mg/l	IS 3025 (Part 48): 1994 (RA 2014)	0.001	No Relaxation	<0.001
24.	Arsenic (as As) in mg/l	IS 3025 (Part 37): 1988 (RA 2014)	0.01	No Relaxation	<0.01
25.	Zinc (as Zn) in mg/l	IS 3025 (Part 49): 1994 (RA 2014)	5	15	0.26
26.	Total Chromium (as Cr) in mg/l	IS 3025 (Part 52): 2014 (RA 2014)	0.05	No Relaxation	<0.05

Report Prepared By:

for Qualissure Laboratory Services

Reviewed & Authorized By

Soumy Chakraborty, Microbiologist  
 (Authorized Signatory)

for Qualissure Laboratory Services

Reviewed & Authorized By

Bishnupriya Banerjee, Chemist  
 (Authorized Signatory)

-----End of the Report-----

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# GREENVISION

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Urvashi Malhar, Phase II, MEAV-25, Bengal Ambuja Housing Complex, City Centre, Durgapur-713216

Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com



TC-11003

## TEST REPORT OF WATER ANALYSIS

FORMAT NO. : GV/LAB/FM/33W

Sample is drawn by	: Representative of M/s. Greenvision	Laboratory Ref. No.	: DS-020-2023
Sample identification mark	: 01	Report Date	: 12.04.2023
Report No.	: GV/DW/22-23/215	Date of Sampling	: 26.03.2023
Issued To	: M/s. Orissa Alloy Steel Pvt. Ltd.	Sample Received on	: 27.03.2023
Address	: Vill. : Gokulpur, P.O. : Shyamraipur, P.S. : Kharagpur, Dist. : Paschim Medinipur, 721301.	Analysis Started on	: 28.03.2023
Sample Condition	: In Glass Bottle & Plastic Bottle	Analysis Completed on	: 05.04.2023
Sample Description	: Drinking Water	Time of Sampling	: 12:10 pm
Sampling Method	: APHA 23 <sup>rd</sup> EDITION, 1060		
Location	: Tap Near Ferro Plant		

Sl. No.	Parameters	Unit	Result	As Per IS:10500:2012		Method Followed [APHA 23 <sup>rd</sup> EDITION]
				Acceptable Limit	Permissible limit in the absence of alternate source	
1.	pH (at 25°C)	-	7.12	6.5 to 8.5	No Relaxation	4500-H <sup>+</sup> B
2.	Colour	Hazen	1.0	5.0	15.0	2120 B
3.	Odour	-	Agreeable	Agreeable	Agreeable	2150 B
4.	Taste	-	Agreeable	Agreeable	Agreeable	2160 A
5.	Turbidity	N.T.U.	0.75	1	5	2130 B
6.	Conductivity	µS/cm	168.9	-	-	2510 B
7.	Total Dissolved Solid (TDS)	mg/L	123.0	500	2000	2540 C
8.	Total Hardness as CaCO <sub>3</sub>	mg/L	106.0	200	600	2340 C
9.	Chloride as Cl	mg/L	15.68	250	1000	4500Cl <sup>-</sup> B
10.	Total Alkalinity as CaCO <sub>3</sub>	mg/L	136.0	200	600	2320 B
11.	Sulfate as SO <sub>4</sub>	mg/L	20.03	200	400	4500 SO <sub>4</sub> <sup>2-</sup> E
12.	Nitrate as NO <sub>3</sub>	mg/L	3.2	45.0	No Relaxation	4500 NO <sub>3</sub>
13.	Fluoride as F	mg/L	BDL	1	1.5	4500 FD



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Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

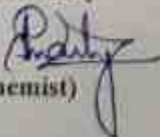


TC-11053

14	Calcium as Ca	mg/L	18.44	75	200	3500- Ca B
15	Magnesium as Mg	mg/L	3.5	30	100	3500- Mg B
16	Iron as Fe	mg/L	BDL	0.3	No Relaxation	3500-Fe B
17	Residual Free Chlorine	mg/L	Nil	0.2	1.0	4500-Cl B
18	Aluminium as Al	mg/L	BDL	0.03	0.2	3500-Al B
19	Total Chromium as Cr	mg/L	BDL	0.05	No Relaxation	3500-Cr C
20	Copper as Cu	mg/L	BDL	0.05	1.5	3500-Cu B
21	Lead as Pb	mg/L	BDL	0.01	No Relaxation	3500-Pb B
22	Cyanide as Cn	mg/L	BDL	0.05	No Relaxation	4500-CN C
23	Nickel as Ni	mg/L	BDL	0.02	No Relaxation	3500-Ni
24	Cadmium as Cd	mg/L	BDL	0.003	No Relaxation	3500-Cd
25	Arsenic as As	mg/L	BDL	0.01	0.05	3500-As B
26	Zinc as Zn	mg/L	BDL	5.0	15.0	3500-Zn B
27	Mercury as Hg	mg/L	BDL	0.001	No Relaxation	3500-Hg
28	Total Coliform / 100ml.	MPN/100ml	Absent	Absent	Absent	9221 B
29	E. Coli / 100ml	MPN/100ml	Absent	Absent	Absent	9221 F

BDL stands for Below Detectable Limit

Checked by

  
(Chemist)

  
(Sabyasachi Shyam Roy Chowdhury)  
Quality Manager  
Authorised Signatory  
For, GREEN VISION

- Note: 1. This report refers to the values obtained at the time of testing and results related to the items tested.  
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3. Retention period of tested sample is 1 month from the date of issue test report unless otherwise specified.

Page 2/2

City Office : 5/11, New Shibtala Lane, Bansdroni, Kolkata-700 070, Ph. : 9433158173

Branch Office : Durgachak, Haldia, Purba Medinipur, Ph. : 8101647425 M.N. Sarkar Road, Mahananda Para, Siliguri-734001



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Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com



TC-11093

## TEST REPORT OF WATER ANALYSIS

FORMAT NO. : GV/LAB/FM/33W

Sample is drawn by	: Representative of M/s. Greenvision	Laboratory Ref. No.	: DS-020-2023
Sample identification mark	: 04	Report Date	: 12.04.2023
Report No.	: GV/DW/22-23/214	Date of Sampling	: 26.03.2023
Issued To	: M/s. Orissa Alloy Steel Pvt. Ltd.	Sample Received on	: 27.03.2023
Address	: Vill. : Gokulpur, P.O. : Shyamraipur, P.S. : Kharagpur, Dist. : Paschim Medinipur, 721301.	Analysis Started on	: 28.03.2023
Sample Condition	: In Glass Bottle & Plastic Bottle	Analysis Completed on	: 05.04.2023
Sample Description	: Drinking Water	Time of Sampling	: 11:35 am
Sampling Method	: APHA 23 <sup>rd</sup> EDITION, 1060		
Location	: Tap Near Pellet Plant		

Sl. No.	Parameters	Unit	Result	As Per IS:10500:2012		Method Followed [APHA 23 <sup>rd</sup> EDITION]
				Acceptable Limit	Permissible limit in the absence of alternate source	
1.	pH (at 25°C)	-	7.46	6.5 to 8.5	No Relaxation	4500-H <sup>+</sup> B
2.	Colour	Hazen	1.0	5.0	15.0	2120 B
3.	Odour	-	Agreeable	Agreeable	Agreeable	2150 B
4.	Taste	-	Agreeable	Agreeable	Agreeable	2180 A
5.	Turbidity	N.T.U.	0.99	1	5	2130 B
6.	Conductivity	µS/cm	302.0	-	-	2510 B
7.	Total Dissolved Solid (TDS)	mg/L	218.0	500	2000	2540 C
8.	Total Hardness as CaCO <sub>3</sub>	mg/L	104.0	200	600	2340 C
9.	Chloride as Cl <sup>-</sup>	mg/L	29.4	250	1000	4500Cl <sup>-</sup> B
10.	Total Alkalinity as CaCO <sub>3</sub>	mg/L	112.0	200	600	2320 B
11.	Sulfate as SO <sub>4</sub>	mg/L	27.69	200	400	4500 SO <sub>4</sub> <sup>2-</sup> E
12.	Nitrate as NO <sub>3</sub> <sup>-</sup>	mg/L	3.8	45.0	No Relaxation	4500 NO <sub>3</sub>
13.	Fluoride as F <sup>-</sup>	mg/L	BDL	1	1.5	4500 FD



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Urvashi Malhar, Phase II, MEAV-25, Bengal Ambuja Housing Complex, City Centre, Durgapur-713216

Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com




TC-11003

14.	Calcium as Ca	mg/L	22.44	75	200	3500- Ca B
15.	Magnesium as Mg	mg/L	11.66	30	100	3500- Mg B
16.	Iron as Fe	mg/L	BDL	0.3	No Relaxation	3500-Fe B
17.	Residual Free Chlorine	mg/L	Nil	0.2	1.0	4500-Cl B
18.	Aluminium as Al	mg/L	BDL	0.03	0.2	3500-Al B
19.	Total Chromium as Cr	mg/L	BDL	0.05	No Relaxation	3500-Cr C
20.	Copper as Cu	mg/L	BDL	0.05	1.5	3500-Cu B
21.	Lead as Pb	mg/L	BDL	0.01	No Relaxation	3500-Pb B
22.	Cyanide as Cn	mg/L	BDL	0.05	No Relaxation	4500-CN C
23.	Nickel as Ni	mg/L	BDL	0.02	No Relaxation	3500-Ni
24.	Cadmium as Cd	mg/L	BDL	0.003	No Relaxation	3500-Cd
25.	Arsenic as As	mg/L	BDL	0.01	0.05	3500-As B
26.	Zinc as Zn	mg/L	BDL	5.0	15.0	3500-Zn B
27.	Mercury as Hg	mg/L	BDL	0.001	No Relaxation	3500-Hg
28.	Total Coliform / 100ml	MPN/100ml	Absent	Absent	Absent	9221 B
29.	E. Coli / 100ml	MPN/100ml	Absent	Absent	Absent	9221 F

BDL stands for Below Detectable Limit

Checked by

  
(Chemist)

  
(Sabyasachi Shyam Roy Chowdhury)  
Quality Manager  
Authorised Signatory  
For, GREEN VISION

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Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

## TEST REPORT OF WATER ANALYSIS

FORMAT NO. : GV/LAB/FM/33W

Sample is drawn by	: Representative of M/s. Greenvision	Laboratory Ref. No.	: DS-020-2023
Sample identification mark	: 02	Report Date	: 12.04.2023
Report No.	: GV/DW/22-23/213	Date of Sampling	: 26.03.2023
Issued To	: M/s. Orissa Alloy Steel Pvt. Ltd.	Sample Received on	: 27.03.2023
Address	: Vill. : Gokulpur, P.O. : Shyamraipur, P.S. : Kharagpur, Dist. : Paschim Medinipur, 721301.	Analysis Started on	: 28.03.2023
Sample Condition	: In Glass Bottle & Plastic Bottle	Analysis Completed on	: 05.04.2023
Sample Description	: Drinking Water	Time of Sampling	: 11:15 am
Sampling Method	: APHA 23 <sup>rd</sup> EDITION, 1060		
Location	: Tap Near DRI Plant		

Sl. No.	Parameters	Unit	Result	As Per IS:10500:2012		Method Followed [APHA 23 <sup>rd</sup> EDITION]
				Acceptable Limit	Permissible limit in the absence of alternate source	
1.	pH (at 25°C)	-	7.63	6.5 to 8.5	No Relaxation	4500-H <sup>+</sup> B
2.	Colour	Hazen	1.0	5.0	15.0	2120 B
3.	Odour	-	Agreeable	Agreeable	Agreeable	2150 B
4.	Taste	-	Agreeable	Agreeable	Agreeable	2160 A
5.	Turbidity	N.T.U.	0.96	1	5	2130 B
6.	Conductivity	µS/cm	305.0	-	-	2510 B
7.	Total Dissolved Solid (TDS)	mg/L	220.0	500	2000	2540 C
8.	Total Hardness as CaCO <sub>3</sub>	mg/L	110.0	200	600	2340 C
9.	Chloride as Cl	mg/L	30.37	250	1000	4500Cl <sup>-</sup> B
10.	Total Alkalinity as CaCO <sub>3</sub>	mg/L	116.0	200	600	2320 B
11.	Sulfate as SO <sub>4</sub>	mg/L	28.87	200	400	4500 SO <sub>4</sub> <sup>2-</sup> E
12.	Nitrate as NO <sub>3</sub> <sup>-</sup>	mg/L	4.2	45.0	No Relaxation	4500 NO <sub>3</sub> <sup>-</sup>
13.	Fluoride as F	mg/L	BDL	1	1.5	4500 FD



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TC-11003

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Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

14.	Calcium as Ca	mg/L	26.45	75	200	3500- Ca B
15.	Magnesium as Mg	mg/L	10.69	30	100	3500- Mg B
16.	Iron as Fe	mg/L	BDL	0.3	No Relaxation	3500-Fe B
17.	Residual Free Chlorine	mg/L	Nil	0.2	1.0	4500-Cl B
18.	Aluminium as Al	mg/L	BDL	0.03	0.2	3500-Al B
19.	Total Chromium as Cr	mg/L	BDL	0.05	No Relaxation	3500-Cr C
20.	Copper as Cu	mg/L	BDL	0.05	1.5	3500-Cu B
21.	Lead as Pb	mg/L	BDL	0.01	No Relaxation	3500-Pb B
22.	Cyanide as Cn	mg/L	BDL	0.05	No Relaxation	4500-CN C
23.	Nickel as Ni	mg/L	BDL	0.02	No Relaxation	3500-Ni
24.	Cadmium as Cd	mg/L	BDL	0.003	No Relaxation	3500-Cd
25.	Arsenic as As	mg/L	BDL	0.01	0.05	3500-As B
26.	Zinc as Zn	mg/L	BDL	5.0	15.0	3500-Zn B
27.	Mercury as Hg	mg/L	BDL	0.001	No Relaxation	3500-Hg
28.	Total Coliform / 100ml.	MPN/100ml	Absent	Absent	Absent	9221 B
29.	E. Coli / 100ml	MPN/100ml	Absent	Absent	Absent	9221 F

BDL stands for Below Detectable Limit

Checked by

  
(Chemist)

  
(Sabyasachi Shyam Roy Chowdhury)  
Quality Manager  
Authorised Signatory  
For, GREEN VISION

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TC-11063

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Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

## TEST REPORT OF WATER ANALYSIS

FORMAT NO. : GV/LAB/FM/33W

Sample is drawn by	: Representative of M/s. Greenvision	Laboratory Ref. No.	: DS-020-2023
Sample identification mark	: 03	Report Date	: 12.04.2023
Report No.	: GV/DW/22-23/212	Date of Sampling	: 26.03.2023
Issued To	: M/s. Orissa Alloy Steel Pvt. Ltd.	Sample Received on	: 27.03.2023
Address	: Vill. : Gokulpur, P.O. : Shyamraipur, P.S. : Kharagpur, Dist. : Paschim Medinipur, 721301.	Analysis Started on	: 28.03.2023
Sample Condition	: In Glass Bottle & Plastic Bottle	Analysis Completed on	: 05.04.2023
Sample Description	: Drinking Water	Time of Sampling	: 10:40 am
Sampling Method	: APHA 23 <sup>rd</sup> EDITION, 1060		
Location	: Tap Near Main Gate		

Sl. No.	Parameters	Unit	Result	As Per IS:10500:2012		Method Followed [APHA 23 <sup>rd</sup> EDITION]
				Acceptable Limit	Permissible limit in the absence of alternate source	
1.	pH (at 25°C)	-	7.85	6.5 to 8.5	No Relaxation	4500-H <sup>+</sup> B
2.	Colour	Hazen	1.0	5.0	15.0	2120 B
3.	Odour	-	Agreeable	Agreeable	Agreeable	2150 B
4.	Taste	-	Agreeable	Agreeable	Agreeable	2160 A
5.	Turbidity	N.T.U.	0.86	1	5	2130 B
6.	Conductivity	µS/cm	275.0	-	-	2510 B
7.	Total Dissolved Solid (TDS)	mg/L	199.0	500	2000	2540 C
8.	Total Hardness as CaCO <sub>3</sub>	mg/L	152.0	200	600	2340 C
9.	Chloride as Cl	mg/L	39.19	250	1000	4500Cl <sup>-</sup> B
10.	Total Alkalinity as CaCO <sub>3</sub>	mg/L	160.0	200	600	2320 B
11.	Sulfate as SO <sub>4</sub>	mg/L	27.94	200	400	4500 SO <sub>4</sub> <sup>2-</sup> E
12.	Nitrate as NO <sub>3</sub>	mg/L	4.0	45.0	No Relaxation	4500 NO <sub>3</sub>
13.	Fluoride as F	mg/L	BDL	1	1.5	4500 FD

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City Office : 5/11, New Shibtala Lane, Bansdrani, Kolkata-700 070, Ph. : 9433158173

Branch Office : Durgachak, Haldia, Purba Medinipur, Ph. : 8101647425 M.N. Sarkar Road, Mahananda Para, Siliguri-734001



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TC-11003

Urvashi Malhar, Phase II, MEAV-25, Bengal Ambuja Housing Complex, City Centre, Durgapur-713216  
Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

14.	Calcium as Ca	mg/L	36.07	75	200	3500-Ca B
15.	Magnesium as Mg	mg/L	15.07	30	100	3500-Mg B
16.	Iron as Fe	mg/L	BDL	0.3	No Relaxation	3500-Fe B
17.	Residual Free Chlorine	mg/L	Nil	0.2	1.0	4500-Cl B
18.	Aluminium as Al	mg/L	BDL	0.03	0.2	3500-Al B
19.	Total Chromium as Cr	mg/L	BDL	0.05	No Relaxation	3500-Cr C
20.	Copper as Cu	mg/L	BDL	0.05	1.5	3500-Cu B
21.	Lead as Pb	mg/L	BDL	0.01	No Relaxation	3500-Pb B
22.	Cyanide as Cn	mg/L	BDL	0.05	No Relaxation	4500-CN C
23.	Nickel as Ni	mg/L	BDL	0.02	No Relaxation	3500-Ni
24.	Cadmium as Cd	mg/L	BDL	0.003	No Relaxation	3500-Cd
25.	Arsenic as As	mg/L	BDL	0.01	0.05	3500-As B
26.	Zinc as Zn	mg/L	BDL	5.0	15.0	3500-Zn B
27.	Mercury as Hg	mg/L	BDL	0.001	No Relaxation	3500-Hg
28.	Total Coliform / 100ml.	MPN/100ml	Absent	Absent	Absent	9221 B
29.	E. Coli / 100ml	MPN/100ml	Absent	Absent	Absent	9221 F

BDL stands for Below Detectable Limit

Checked by

  
(Chemist)

  
(Sabyasachi Shyam Roy Chowdhury)  
Quality Manager  
Authorised Signatory  
For, GREEN VISION

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>	<b>Report No.</b> : QLS/P-29/22-23/C/14E
<b>M/s. Orrisa Alloy Steel Pvt Limited.</b>	<b>Date</b> : 27.04.2023
NH-6, Shyamraipur,	<b>Sample No.</b> : QLS/P-29/22-23/14E
Gokulpur , Kharagpur	<b>Date Of Performance</b> : 22.03.2023-27.03.2023
West Medinipur -721304	<b>Sample Description</b> : Noise Monitoring
	<b>Ref No.</b> : OASPL/QUALISSURE/WO/22-23/01
	<b>Dated</b> : 06.03.2023

## Monitoring Result of Noise

Sampling Done By: P.Mahato			
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)			
Location : Coke Oven Plant			
Date of Monitoring : 21.03.2023			
Time	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
06.00-07.00	50.2	48.5	49.4
07.00-08.00	55.7	50.2	53.7
08.00-09.00	60.2	56.0	58.5
09.00-10.00	65.7	58.2	62.8
10.00-11.00	68.2	62.5	65.8
11.00-12.00	70.9	67.9	69.4
12.00-13.00	70.9	66.5	68.9
13.00-14.00	71.9	67.9	70.3
14.00-15.00	72.7	69.9	71.4
15.00-16.00	71.4	68.1	70.3
16.00-17.00	71.1	67.9	69.9
17.00-18.00	70.9	68.1	70.2
18.00-19.00	72.0	69.4	70.9
19.00-20.00	68.2	56.5	63.6
20.00-21.00	69.2	65.2	67.5
21.00-22.00	67.2	63.2	65.4
22.00-23.00	66.2	61.2	64.2
23.00-00.00	65.1	60.5	63.4
00.00-01.00	64.2	59.6	62.5
01.00-02.00	52.5	47.5	50.9
02.00-03.00	51.6	46.5	49.9
03.00-04.00	50.7	45.6	49.0
04.00-05.00	49.5	42.5	47.1
05.00-06.00	52.6	48.1	50.0

Report Prepared By:

*Kaishan*

for Qualissure Laboratory Services  
Reviewed & Authorized By

*Benimadhab Goral*  
Benimadhab Goral, Chemist  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>	Report No. : QLS/P-29/22-23/C/14D
<b>M/s. Orrisa Alloy Steel Pvt Limited.</b>	Date : 27.04.2023
NH-6, Shyamraipur,	Sample No. : QLS/P-29/22-23/14D
Gokulpur , Kharagpur	Date Of Performance : 22.03.2023-27.03.2023
West Medinipur -721304	Sample Description : Noise Monitoring
	Ref No. : OASPL/QUALISSURE/WO/22-23/01
	Dated : 06.03.2023

## Monitoring Result of Noise

Sampling Done By: P.Mahato			
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)			
Location : Near Construction Site			
Date of Monitoring : 21.03.2023			
Time	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
06.00-07.00	55.6	50.4	53.2
07.00-08.00	59.8	53.6	57.5
08.00-09.00	63.8	58.9	61.6
09.00-10.00	64.8	60.3	62.6
10.00-11.00	68.9	63.4	66.9
11.00-12.00	71.3	66.7	68.9
12.00-13.00	71.6	69.5	70.8
13.00-14.00	74.6	68.9	72.2
14.00-15.00	74.8	69.6	72.3
15.00-16.00	75.2	69.1	72.6
16.00-17.00	75.6	70.9	73.5
17.00-18.00	72.8	69.7	71.8
18.00-19.00	66.7	61.8	65.1
19.00-20.00	69.8	64.8	67.9
20.00-21.00	63.4	59.8	61.5
21.00-22.00	66.7	61.8	64.9
22.00-23.00	69.8	65.8	68.3
23.00-00.00	70.2	65.6	68.5
00.00-01.00	66.7	61.8	64.9
01.00-02.00	61.6	59.8	60.5
02.00-03.00	54.6	46.7	50.9
03.00-04.00	52.3	48.6	50.9
04.00-05.00	54.8	50.3	53.2
05.00-06.00	53.8	50.2	52.6

Report Prepared By:

*Benimadhab Gorai*

for Qualissure Laboratory Services

Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> M/s. Orrisa Alloy Steel Pvt Limited. NH-6, Shyamraipur, Gokulpur , Kharagpur West Medinipur -721304	<b>Report No.</b> : QLS/P-29/22-23/C/14C <b>Date</b> : 27.04.2023 <b>Sample No.</b> : QLS/P-29/22-23/14C <b>Date Of Performance</b> : 22.03.2023-27.03.2023 <b>Sample Description</b> : Noise Monitoring <b>Ref No.</b> : OASPL/QUALISSURE/WO/22-23/01 <b>Dated</b> : 06.03.2023
---	--

## Monitoring Result of Noise

Sampling Done By: P.Mahato			
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)			
Location : Railway Siding			
Date of Monitoring : 20.03.2023			
Time	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
06.00-07.00	52.5	49.2	50.6
07.00-08.00	57.6	51.7	55.1
08.00-09.00	61.5	57.6	59.4
09.00-10.00	65.6	60.5	63.4
10.00-11.00	67.2	64.5	66.1
11.00-12.00	70.7	67.5	69.3
12.00-13.00	71.5	67.2	69.5
13.00-14.00	69.9	62.8	68.0
14.00-15.00	70.9	65.7	68.5
15.00-16.00	72.9	65.9	70.3
16.00-17.00	74.6	68.9	72.4
17.00-18.00	75.9	69.2	73.8
18.00-19.00	74.9	66.9	72.7
19.00-20.00	69.6	63.2	67.0
20.00-21.00	69.0	63.2	67.4
21.00-22.00	67.0	61.5	65.4
22.00-23.00	65.2	60.7	63.8
23.00-00.00	63.2	59.6	62.3
00.00-01.00	62.5	53.6	60.6
01.00-02.00	61.7	57.7	60.1
02.00-03.00	52.5	49.5	50.8
03.00-04.00	51.6	48.5	49.8
04.00-05.00	50.7	47.6	48.8
05.00-06.00	54.2	46.5	50.5

Report Prepared By:

*Donkon*

for Qualissure Laboratory Services

Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> <b>M/s. Orrisa Alloy Steel Pvt Limited,</b> NH-6, Shyamraipur, Gokulpur , Kharagpur West Medinipur -721304	Report No. :	QLS/P-29/22-23/C/14B
	Date :	27.04.2023
	Sample No. :	QLS/P-29/22-23/14B
	Date Of Performance :	22.03.2023-27.03.2023
	Sample Description :	Noise Monitoring
	Ref No. :	OASPL/QUALISSURE/WO/22-23/01
	Dated :	06.03.2023

## Monitoring Result of Noise

Sampling Done By: P.Mahato			
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)			
Location : DRI & PELLET Plant Area			
Date of Monitoring : 20.03.2023			
Time	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
06.00-07.00	54.1	50.2	52.0
07.00-08.00	57.6	52.9	55.5
08.00-09.00	59.2	55.0	58.0
09.00-10.00	63.0	59.2	61.0
10.00-11.00	67.0	63.2	65.5
11.00-12.00	70.5	67.2	69.0
12.00-13.00	69.6	63.2	67.0
13.00-14.00	69.5	59.8	65.2
14.00-15.00	70.1	65.2	68.6
15.00-16.00	69.9	66.6	68.5
16.00-17.00	73.0	70.1	72.1
17.00-18.00	77.2	68.9	74.7
18.00-19.00	78.1	69.2	76.2
19.00-20.00	61.4	55.3	58.6
20.00-21.00	58.6	53.2	56.5
21.00-22.00	57.5	52.5	55.2
22.00-23.00	56.0	51.6	53.7
23.00-00.00	54.2	50.6	52.3
00.00-01.00	52.5	49.6	51.0
01.00-02.00	51.6	48.5	50.1
02.00-03.00	50.5	47.5	49.0
03.00-04.00	49.6	46.5	48.0
04.00-05.00	48.5	45.5	47.0
05.00-06.00	47.6	43.0	45.6

Report Prepared By:

*P.Mahato*

for Qualissure Laboratory Services

Reviewed & Authorized By



Benimadhab Goral, Chemist  
(Authorized Signatory)

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## TEST REPORT

<b>Name &amp; Address Of the Customer :</b> <b>M/s. Orrisa Alloy Steel Pvt Limited.</b> NH-6, Shyamraipur, Gokulpur, Kharagpur West Medinipur -721304	<b>Report No. :</b> QLS/P-29/22-23/C/14A <b>Date :</b> 27.04.2023 <b>Sample No. :</b> QLS/P-29/22-23/14A <b>Date Of Performance :</b> 22.03.2023-27.03.2023 <b>Sample Description :</b> Noise Monitoring <b>Ref No. :</b> OASPL/QUALISSURE/WO/22-23/01 <b>Dated :</b> 06.03.2023
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## Monitoring Result of Noise

Sampling Done By: P.Mahato			
Sampling Guideline : As per IS: 9876: 1981 (RA-2001)			
Location : Ferro Alloy Plant Area			
Date of Monitoring : 20.03.2023			
Time	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
06.00-07.00	53.5	50.5	52.0
07.00-08.00	56.0	51.7	54.5
08.00-09.00	58.9	54.6	57.0
09.00-10.00	60.1	57.0	59.2
10.00-11.00	65.7	63.0	64.4
11.00-12.00	69.2	62.5	67.4
12.00-13.00	69.8	63.8	66.6
13.00-14.00	70.2	65.5	68.8
14.00-15.00	71.2	69.5	70.7
15.00-16.00	70.9	67.8	69.9
16.00-17.00	75.8	68.9	72.9
17.00-18.00	76.5	69.9	73.4
18.00-19.00	63.2	60.5	61.9
19.00-20.00	61.6	58.6	60.4
20.00-21.00	60.9	57.5	59.3
21.00-22.00	59.8	55.6	57.9
22.00-23.00	58.7	54.5	56.5
23.00-00.00	57.6	52.0	55.0
00.00-01.00	55.0	51.7	53.1
01.00-02.00	54.2	50.7	52.1
02.00-03.00	49.6	42.1	48.5
03.00-04.00	51.6	48.5	49.5
04.00-05.00	50.6	47.5	48.5
05.00-06.00	49.5	43.2	46.9

Report Prepared By:

*Balkon*

for Qualissure Laboratory Services

Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

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DOC NO : QLS/SAMP/08-C/00

## TEST REPORT

<b>Name &amp; Address Of the Customer:</b>	Report No.	: QLS/P-29/22-23/C/13
<b>M/s. Orissa Alloy Steel Pvt Limited.</b>	Date	: 27.04.2023
Address: Vill- Gokulpur, P.O-	Sample No.	: QLS/P-29/22-23/C/13(A-B)
Shyamraipur, P.S- Kharagpur (L), Paschim	Date of Performance	: 22.03.2023-27.03.2023
Medinipur- 721301, West Bengal.	Sample Description	: Noise Monitoring
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
	Dated	: 06.03.2023

## Analysis Result of Ambient Noise

Sampling Guideline : As per IS: 9876: 1981 (RA-2001)				
Sampling done by: P.Mahato				
Date of Sampling : 14.10.2022-15.10.2022				
Sl. No	Sample location	Lmax dB (A)	Lmin dB (A)	Avg. dB (A)
13A	Near Plant Main Gate	67.5	47.2	57.5
13B	Barkola Village	59.8	40.2	49.8

Report Prepared By:

*P. Mahato*

for Qualissure Laboratory Services  
Reviewed & Authorized By



Benimadhab Gorai, Chemist  
(Authorized Signatory)

—End of the Report—

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# GREENVISION

(A leading environmental research laboratory)

Recognized by West Bengal Pollution Control Board



TC-11003

Urvashi Malhar, Phase II, MEAV-25, Bengal Ambuja Housing Complex, City Centre, Durgapur-713216

Contact : 0343-2542377, 9732580459, 9433158173, email : greenvision.dgp@gmail.com, Website : www.greenvisiondurgapur.com

## TEST REPORT OF NOISE LEVEL MONITORING

FORMAT NO. : GV/LAB/FM/33N

Sample is drawn by : M/s. Greenvision  
Report No. : GV/NL/22-23/097  
Issued to : M/s. Orissa Alloy Steel Pvt. Ltd.  
Address : Vill. : Gokulpur, P.O. : Shyamraipur, P.S. : Kharagpur  
(1), Dist. : Paschim Medinipur, Pin : 721301.  
Sample Description : Noise Level (24 Hrs.)  
Location : Near WHRB Power Plant (DRI)  
Monitoring Details : Distance from Object : 3.0 Mtr.  
Height from the Ground : 1.5 Mtr.

Laboratory Ref. No. : NLM-012-2023  
Report Date : 12.04.2023  
Date of Sampling : 25.03.2023 to 26.03.2023  
Total Time : 24 Hrs.

Time	Lmax dB (A)	Lmin dB (A)	Leq dB (A)
08:10 hrs. to 09:10 hrs.	65.7	61.6	63.65
09:10 hrs. to 10:10 hrs.	65.9	59.8	62.7
10:10 hrs. to 11:10 hrs.	66.7	62.5	64.6
11:10 hrs. to 12:10 hrs.	67.1	65.4	66.25
12:10 hrs. to 13:10 hrs.	67.8	61.9	64.85
13:10 hrs. to 14:10 hrs.	67.4	63.8	65.6
14:10 hrs. to 15:10 hrs.	69.3	57.8	63.55
15:10 hrs. to 16:10 hrs.	68.8	64.7	66.75
16:10 hrs. to 17:10 hrs.	68.2	63.6	65.9
17:10 hrs. to 18:10 hrs.	67.9	60.5	64.2
18:10 hrs. to 19:10 hrs.	67.2	58.7	62.95
19:10 hrs. to 20:10 hrs.	68.1	64.3	66.2
20:10 hrs. to 21:10 hrs.	66.5	60.6	63.55
21:10 hrs. to 22:10 hrs.	66.9	55.3	61.1
22:10 hrs. to 23:10 hrs.	66.8	52.6	59.7
23:10 hrs. to 00:10 hrs.	65.2	51.2	58.2
00:10 hrs. to 01:10 hrs.	64.8	50.8	57.8
01:10 hrs. to 02:10 hrs.	64.5	52.3	58.4
02:10 hrs. to 03:10 hrs.	63.7	48.4	56.05
03:10 hrs. to 04:10 hrs.	62.8	47.5	55.15
04:10 hrs. to 05:10 hrs.	62.1	44.6	53.35
05:10 hrs. to 06:10 hrs.	65.6	51.6	58.6
06:10 hrs. to 07:10 hrs.	66.2	59.5	62.85
07:10 hrs. to 08:10 hrs.	64.3	60.2	62.25

Checked by

(Chemist)

(Sabyasachi Shyam Roy Chowdhury)  
Quality Manager  
Authorised Signatory  
For, GREEN VISION

Note: 1. This report refers to the values obtained at the time of testing and results related to the items tested.  
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End of the report.....

City Office : 5/11, New Shibtala Lane, Bansdroni, Kolkata-700 070, Ph. : 9433158173

Branch Office : Durgachak, Haldia, Purba Medinipur, Ph. : 8101647425 M.N. Sarkar Road, Mahananda Para, Siliguri-734001



# Qualissure Laboratory Services

NABL ACCREDITED, WBPCB & ISO 9001:2015 CERTIFIED LABORATORY

ANNEXURE-XI

361, Prantick Pally,  
45/361, Bose Pukur Road,  
Kolkata - 700107

Email : qualissure@gmail.com

Mob. No. : 9831287086

9830093976

DOC NO : QLS/SAMP/08-M/00

## TEST REPORT

<b>Name &amp; Address Of the Customer :</b>  <b>M/s. Orissa Alloy Steel Pvt Limited.</b>  Address: Vill- Gokulpur, P.O- Shyamraipur, P.S- Kharagpur (L), Paschim Medinipur- 721301, West Bengal.	Report No.	: QLS/P-29/22-23/C/19
	Date	: 27.04.2023
	Sample No.	: QLS/P-29/22-23/19
	Sample Description	: Slag
	Sample Mark	: Ferro Alloy Slag
	Date of Performance	: 22.03.2023-27.03.2023
	Sample Drawn On	: 21.03.2023
	Ref No.	: OASPL/QUALISSURE/WO/22-23/01
	Dated	: 06.03.2023

## Analysis Result

Sl. No.	Parameters	Test Method	TCLP Test Result	Limit as per Hazardous & Other waste (management and Transboundary Movement Rules) Schedule-2
1.	Zinc (as Zn) in mg/l	EPA 3050 B	0.72	250
2.	Lead (as Pb) in mg/l	EPA 3050 B	0.42	5.0
3.	Copper (as Cu) in mg/l	EPA 3050 B	0.33	25.0
4.	Cobalt (as Co) in mg/l	EPA 3050 B	0.22	80.0
5.	Nickel (as Ni) in mg/l	EPA 3050 B	0.84	20.0
6.	Arsenic (as As) in mg/l	EPA 3050 B	<0.01	5.0
7.	Mercury (as Hg) in mg/l	EPA 3050 B	<0.001	0.2
8.	Total Chromium (as Cr) in mg/l	EPA 3050 B	0.35	5.0
9.	Manganese (as Mn) in mg/l	EPA 3050 B	0.97	10.0

Report Prepared By:

for Qualissure Laboratory Services  
Reviewed & Authorized By  
  
Bishnupriya Banerjee, Chemist  
(Authorized Signatory)

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