

Date: 07/06/2019

To
Government of India
Ministry of Environment Forest & Climate Change
Eastern Regional Office
A/3, Chandrasekharapur,
Bhubaneswar – 751 023

Kind Attn.: Mr. P. Suresh Babu, Dy. Director (S)

Sub.: Submission of Six monthly Compliance Report on EC Ref. No. J-11011/758/2009-1A.II(I), dated. 18.04.2017.

Sir,
As per requirement for submission of the six monthly EC compliance report, we are sending herewith the following for your kind consideration.

1. One six monthly compliance report for the period of **April 2018 to September 2018** on the status of implementation of the stipulated conditions and environmental safe guard is submitted herewith.

We hope that you will do the needful in this regard.

Thanking you

Yours truly,
For BRAVO SPONGE IRON PVT LTD


Authorized Signatory

CC to:

- i. The Senior Environmental Engineer, EIM CELL, , WBPCB, Paribesh Bhawan, Block –LA, 10A, Sec.-III, Salt Lake City, Kolkata -700098

BRAVO SPONGE IRON PVT LTD.

COMPLIANCE STATUS ON ENVIRONMENTAL CLEARANCE

For the Sponge Iron & Power Plant

Vide letter No. : J-11011/758/2009-1A.II(I), dtd. 18th April, 2017

COMPLIANCE PERIOD: APRIL 18 TO SEPTEMBER 18

INTRODUCTION

M/S. Bravo Sponge Iron Pvt Ltd. at Village Mahuda, PO-Rukni, Dist-Purulia, West Bengal was accorded the Environmental Clearance No. J-11011/758/2009-1A.II(I), dtd. 18th April, 2017 for Expansion of Sponge Iron & Power plant.

As per requirement this unit is giving below the compliance report as per conditions of Environmental Clearance for the period of **April 2018 to September 2018**.

COMPLIANCE REPORT

A.	SPECIFIC CONDITIONS :		
	COMPLIANCE CONDITIONS	:	COMPLIANCE STATUS
i)	The project proponent shall install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office	:	The proponent has taken adequate measures and installed monitoring devices to measure air emissions.

ii)	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Dust suppression system like water spraying shall be provided at unloading and raw material handling areas, storage yards, conveyor belts and bucket elevators to control fugitive dust emissions to meet the WBPCB norms. Covered conveyer belts shall be provided to prevent the dust emissions.	:	Water sprinkler is used to reduce dust. Fugitive air quality is measured and annexed with the report. Pollution control is done to the optimum level.
iii)	The COD level in the effluent should be maintained at the prescribed standard and the STP effluent is to be recycled within the premises.		The COD level in the effluent is within the limit.
iv)	No effluent shall be discharged outside the plant premises and 'zero' discharge shall be adopted.		Project proponent is giving attention to use process and domestic water as minimum as possible. Zero effluent discharge will be maintained and it will be given top priority.

v)	<p>Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm³ and installing energy efficient technology.</p>		<p>Stack monitoring facility is present in the stacks. Monitoring is done regularly and the reports are attached.</p>
vi)	<p>Efforts shall further be made to use maximum water from the rain water harvesting sources. Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent should be treated and used for ash handling, dust suppression and green belt development. ETP sludge should be disposed off scientifically.</p>	:	<p>Proponent gives importance to optimize use of water within the plant. Rain water harvesting system is present in the plant to reduce water consumption.</p>
vii)	<p>All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using native species shall be developed along the roads. Facilities for parking of trucks carrying</p>	:	<p>This condition is implemented and proper measures are taken for plantation within the plant.</p>

viii)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed	:	This is followed.
ix)	'Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.	:	This unit has been maintaining the load/mass based standards notified by the Ministry prescribed from time to time.
x)	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent.	:	Effluent water quality analysis is done and the report is annexed with the report.

xi)	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office, SPCB and CPCB.	:	The proponent ensures efficient handling, storage, utilization, disposal of solid waste. Toxic metal content in the waste content is submitted to the Ministry's Regional office at Bhubaneswar, WBPCB and CPCB.
xii)	A time bound action plan shall be submitted to reduce solid waste generated due to the project related activity, its proper utilization and disposal.	:	This has been submitted and currently is in the stage of implementation. Proponent gives adequate measures to dispose solid waste.
xiii)	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office.	:	Fly ash generated within the plant is distributed to the brick manufacturers with efficient methodology.

xiv)	A Risk and Disaster Management Plan shall be prepared and a copy submitted to the Ministry ' s Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.	:	Efficient Risk & Disaster Management Plan is prepared previously and currently it's under operation.
xv)	10-15m wide green belt should be developed all along the boundary of the plant and in all 33% of the area should be developed green by planting native and broad leaved species in consultation with local DFO and local communities as per the CPCB guidelines. The complete plantation should be completed in 3 years.	:	A well-developed green belt is present in the plant premises. The total area of the green belt is 33% of the total area.
xvi)	All the commitments made to the Public Hearing/public consultation meeting shall be satisfactorily implemented and adequate budget provision shall be made accordingly.	:	The proponent gives attention to all the commitments made in Public hearing.

xvii)	An amount equal to Rs 400.87 lakhs, shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, locals need and item-wise details along with time bound action plan as indicated by the project proponent shall be implemented. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	:	The mentioned amount is designated toward the Enterprise Social Commitment. The proponent performs social responsibility as per the compliance condition.
xviii)	The company shall submit within three months their policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) Systems of reporting of non-compliance/violation environmental norms to the Board of Directors of the Company and/or stakeholders or shareholders.	:	The company submits their policy toward Corporate Social Responsibility within the due course of time.
xix)	The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.		This condition is under implementation stage. Solar lights will be built very soon.
xx)	The project proponent shall provide for LED lights in their offices and residential areas.		LED light is provided for the common areas.

xxi)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	All the amenities required are provided to the workers for safe and healthy life style.
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B.	GENERAL CONDITIONS	:	
i)	The project authority shall adhere to the stipulations made by West Bengal Pollution Control Board (WBPCB) and State Government.	:	The project proponent has received 'Consent to Establish' & 'Consent to Operate' from West Bengal Pollution Control Board. The proponent adheres to the stipulation made by the authority.
ii)	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	:	No modification will be done without consent from the ministry.
iii)	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum round level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the PCB data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	:	The monitoring locations are installed and constant monitoring is done to determine the pollutant concentration in the ambient air. The analysis report is annexed.

iv)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May, 1993 and 31st December 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	:	The wastewater generated in the plant is treated to avoid any kind of pollution.
v)	The overall noise levels in and around the plant area shall be kept well within the standards (85 dB(A)) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75dB(A) during day time and 70 dB(A) during night time.		The noise level around the plant is within the permissible standard.
vi)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.		This is followed.
vii)	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.		Rain water harvesting structure has been developed inside the plant premises.
viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake		All the environmental protection measures are safeguarded as recommended in the EIA/EMP report.

	socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.		
ix)	Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEF&CC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose		It is agreed and will be followed.
x)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.		All the clearances required has been sent to the authorized Govt body.
xi)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF&CC at Bhubaneswar. The respective Zonal Office of CPCB and the SPCB. The criteria		The compliance status is uploaded within regular time interval to comply with this condition.

	<p>pollutant levels namely; PM10,SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>	
xii)	<p>The project proponent shall also submit six monthly report status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhubaneswar/ CPCB/SPCB shall monitor the stipulated conditions.</p>	<p>Six monthly monitoring report is sent to the regional office of MoEF&CC as per the condition. All the datas measured are attached with the report.</p>
xiii)	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MoEF&CC at Bhubaneswar by e-mail.</p>	<p>Its is agreed and will be followed.</p>
xiv)	<p>The project proponent shall inform the public that the project has been accorded environment clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://envfor.nic.in. This shall be</p>	<p>Public is informed by the project proponent about the environmental clearance. The copy of the clearance letter is also uploaded the website of the ministry.</p>

	advertised within seven days from the date of issue of the clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and copy of the same should be forwarded to the Regional Office at Bhubaneswar		
xv)	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.		It is agreed and will be followed.

DETAILS OF ENVIRONMENTAL MONITORING

1. AMBIENT AIR QUALITY MONITORING

Ambient Air Quality Monitoring Stations

Ambient air quality monitoring has been carried out on 1st September in four locations to assess the ambient air quality of Project Site. This will enable to have an analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The location of the ambient air quality monitoring station is given in **Table 1.1**.

Table 1.1 Details of Ambient Air Quality Monitoring Stations

Sl. No.	Location Code	Location Name/ Description	Environmental Setting
1.	AAQ-1	Near Main Gate	Sponge and Power Plant
2.	AAQ-2	Mohuda Village	Sponge and Power Plant
3	AAQ-3	Near Railway Siding Area	Sponge and Power Plant
4	AAQ-4	Roof of main Adm Building	Sponge and Power Plant

Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Particulate Matter 2.5 (PM_{2.5})
- Particulate Matter 10 (PM₁₀)
- Sulphur Dioxide (SO₂)
- Oxides of Nitrogen (NO_x)

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring and minimum detectable levels are given in **Table 1.2**.

Fine Particulate Sampler APM 550 instruments have been used for monitoring Particulate Matter 2.5 (PM_{2.5} i.e. <2.5 microns), and Respirable Dust Sampler APM 450 was used for sampling Respirable fraction (<10 microns), gaseous pollutants like SO₂, and NO_x.

Table 1.2 Techniques used for Ambient Air Quality Monitoring

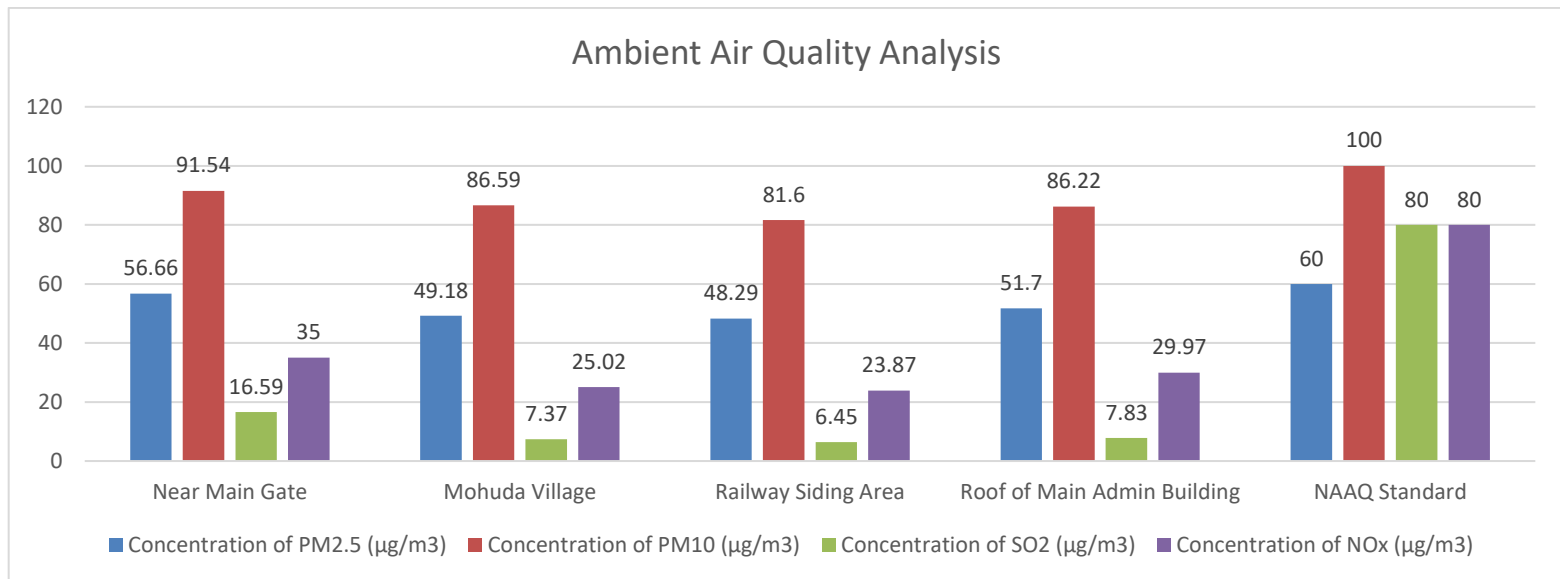
S. No.	Parameter	Technique	Technical Protocol
1	Particulate Matter 2.5 (PM _{2.5})	USEPA 1997a, 40 CFR Part 50, Appendix L	IS-5182 (Part-IV)
2	Particulate Matter 10 (PM ₁₀)	IS 5182 (PART 23) : 2006	IS-5182 (Part-23)
3	Sulphur dioxide	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	IS-5182 (Part- II)
4	Nitrogen dioxide	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	IS-5182 (Part-VI)

Ambient Air Quality Monitoring Results

The detailed on-site monitoring results of PM 2.5, PM 10, SO₂ and NO_x are presented in Table 1.3.

Table 1.3 Ambient Air Quality Monitoring Results

	01.09.2018 -02.09.2018	Near Main Gate	Mohuda Village	Railway Siding Area	Roof of Main Admin Building	NAAQ Standard
April 18 – Sep 18	Concentration of PM _{2.5} (µg/m ³)	56.66	49.18	48.29	51.70	60
	Concentration of PM ₁₀ (µg/m ³)	91.54	86.59	81.60	86.22	100
	Concentration of SO ₂ (µg/m ³)	16.59	7.37	6.45	7.83	80
	Concentration of NO _x (µg/m ³)	35.00	25.02	23.87	29.97	80



Discussion on Ambient Air Quality in the Study Area

The level of PM₁₀ and PM_{2.5}, SO₂ and NO_x near Main Gate is under the permissible limit (for residential, rural and other areas as stipulated in the National Ambient Air Quality Standards).

2. STACK GAS MONITORING

Stack gas is generated from many combustion sources, including incinerators, kilns and thermal oxidizers. A thermal oxidizer is a process for the treatment of air exhaust and is commonly used during the incineration of waste. When the stack is mixed with air, the exhausting gas is cool enough to be measured by a thermal mass flow meter, thereby getting the benefit of the fast response and wide turn down of the device. Measuring the flow rate of stack gas is required in order to calculate the overall mass of gas over time. This is a requirement for many environmental regulations.

The stacks are attached to Rotary Kiln and induction furnace. The sample was taken on 30th August, 2018.

The details of the stack attached to Rotary Kiln No 1 & 2 are given in tabular form in Table 2.1:

Parameters	Results	Methods
Flue Gas Temperature (OC)	119.3	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	753.0	--
Velocity of Gas flow (m/s)	7.83	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	58380.79	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	777.20	IS 11255 (Part 2) 1985 RA 2003
Concentration of CO ₂ %(v/v)	10.4	IS 13270 1992 RA 2003
Concentration of CO %(v/v)	<1.0	IS 13270 1992 RA 2003
Concentration of Particulate Matter (mg/Nm ³) (at 10.4% CO ₂)	39.92	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011
Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)	46.06	

Results of the stack attached to Rotary Kiln (No 3 & 4)

Parameters	Results	Methods
Flue Gas Temperature (OC)	125.0	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	753.0	--
Velocity of Gas flow (m/s)	8.12	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	53435.45	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	830.49	IS 11255 (Part 2) 1985 RA 2003
Concentration of CO ₂ %(v/v)	10.2	IS 13270 1992 RA 2003
Concentration of CO %(v/v)	<1.0	IS 13270 1992 RA 2003
Concentration of Particulate Matter (mg/Nm ³) (at 10.2 % CO ₂)	36.44	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011
Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)	42.87	

Results of the stack attached to AFBC Boiler

Parameters	Results	Methods
Flue Gas Temperature (OC)	119.0	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	753.0	--
Velocity of Gas flow (m/s)	7.12	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	71554.98	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	648.45	IS 11255 (Part 2) 1985 RA 2003
Concentration of CO ₂ %(v/v)	11.8	IS 13270 1992 RA 2003
Concentration of CO %(v/v)	<1.0	IS 13270 1992 RA 2003
Concentration of Particulate Matter (mg/Nm ³) (at 10.2 % CO ₂)	37.44	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011
Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)	38.07	

3. WORK ZONE AIR QUALITY MONITORING

Fugitive emissions are emissions of gases or vapors from pressurized equipment due to leaks and other unintended or irregular releases of gases, mostly from industrial activities. As well as the economic cost of lost commodities, fugitive emissions contribute to air pollution and climate change.

The sampling was done on 18th March, 2019 for fugitive analysis. The results are given in tabular form

Results of Fugitive Air Analysis near raw material stock yard

PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	580.10
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	181.76
Concentration of *SO ₂ ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	6.91
Concentration of *NO _x ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	23.63

Results of Fugitive Air analysis in between Cooler Discharge –

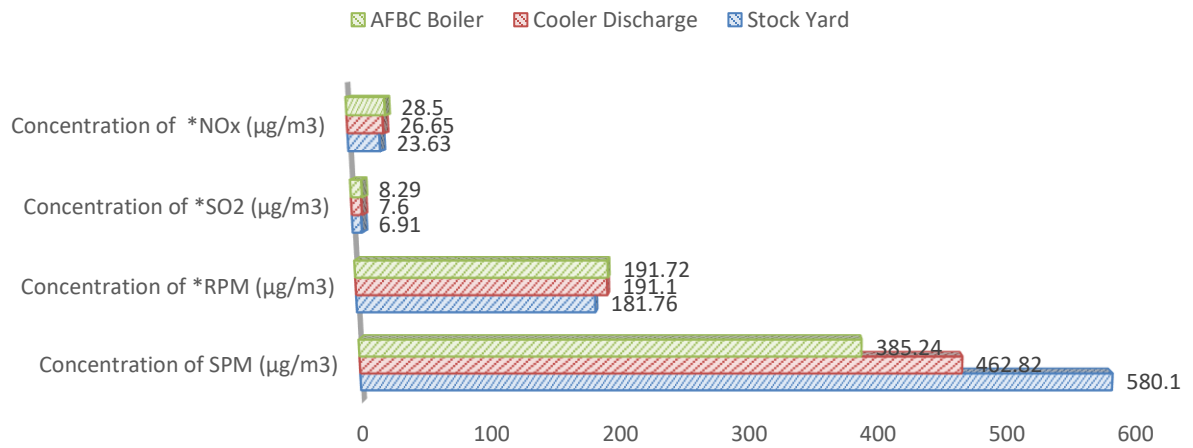
PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	462.82
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	191.10
Concentration of *SO ₂ ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	7.60
Concentration of *NO _x ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	26.65

Results of Fugitive Air Analysis near AFBC Boiler area-

PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	385.24
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	191.72
Concentration of *SO ₂ ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	8.29
Concentration of *NO _x ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	28.50

The comparison are given in graphical form

FUGITIVE AIR ANALYSIS



4. Effluent Water Quality Monitoring

Effluent Water sample was collected from waste water storage tank. The sample was analyzed for various parameters. The details of water sampling locations are given in **Table 4.1**.

Table 4.1 Details of Effluent Water Quality Monitoring Station

S. No.	Location Code	Location Name/ Description
1.	Effluent Water	Industrial Effluent Water (Grab)

Methodology of Effluent Water Quality Monitoring

Sampling of effluent water was carried out on 31st August, 2018. Samples were collected as grab sample and sampling forms are filled in as per the sampling plan. The preservative sample were properly added to preserve as per standard operating procedures (SOP) and stored immediately in ice boxes, which were ensured for appropriate temperatures. Sample for chemical analysis was collected in polyethylene carboys.

Proper care was taken during packing and transportation of samples. All the samples reached the laboratory within the holding times for different parameters. After ensuring the same the samples were forwarded immediately for analysis.

The samples were analyzed as per the standard procedures specified in 'Standard Methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA) and CPCB.

Effluent Water Quality Monitoring Results

The detailed effluent water quality monitoring results are presented in **Table 4.2**.

<u>PARAMETERS</u>	<u>TEST METHODS</u>	<u>RESULTS</u>	<u>LIMIT*</u>
1. pH	APHA 23 rd Ed., 4500-H+B : 2017	: 7.12	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 rd Ed., 2540 D : 2017	: 15.0	100.0
3. Oil and Grease (mg./l)	APHA 23 rd Ed., 5520 B/D : 2017	: 3.5	10.0
4. COD (mg./l)	APHA 23 rd Ed., 5220 B/C/D : 2017	: 37.82	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 rd Ed., 5210-B : 2017	: 5.0	30.0

ANNEXURE 1



STACK GAS ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mohuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 30.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/1/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	: Rotary Kiln No. 1 & 2 (100 TPD each)
2.	Shape of Stack	: Circular
3.	Material of Construction	: M.S.
4.	Height of Stack from G. L. (mtr.)	: 30.0
5.	Stack I.D. at sampling point (mtr.)	: 1.90
6.	Height of sampling port from G. L. (mtr.)	: 14.0
7.	Capacity	: 6.42 MT/hr. (Kiln – 1), 6.29 MT/hr. (Kiln – 2)
8.	Emission due to	: Oxidation of Coal & Reduction of Fe-Ore
(a) Type of Fuel Used		: Coal
(b) Fuel Consumption		: Rated – 5.63 MT/hr. (each kiln) Working – 5.12 MT/hr. (each Kiln)
9(a)	Permanent ladder & platform	Yes
(b)	Pollution Control Device	: E.S.P with WHRB

B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 119.3
2.	Barometric Pressure (mm of Hg.)	--	: 753.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 7.83
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 58380.79
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 777.20
6.	Concentration of CO ₂ % (v/v)	IS 13270 1992 RA 2003	: 10.4
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0
8.	a) Concentration of Particulate Matter (mg/Nm ³) (at 10.4% CO ₂)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11 (Vol. 3 11.07) : 2011	: 39.92
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 46.06

Remarks : All the information under column A are supplied by the respective industry.
: During monitoring both Rotary Kilns were in operation.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mohuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	30.08.2018
4.	Report No.	:	53/EC/Aug./TR(A)/II/18-19
5.	Analysis completed on	:	01.09.2018
6.	Reporting Date	:	06.09.2018

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	:	Rotary Kiln No. 3 & 4 (100 TPD each)
2.	Shape of Stack	:	Circular
3.	Material of Construction	:	M.S.
4.	Height of Stack from G. L. (mtr.)	:	30.0
5.	Stack I.D. at sampling point (mtr.)	:	1.80
6.	Height of sampling port from G. L. (mtr.)	:	15.0
7.	Capacity	:	6.42 MT/hr. (Kiln – 3), 6.30 MT/hr. (Kiln – 4)
8.	Emission due to	:	Oxidation of Coal & Reduction of Fe-Ore
(a) Type of Fuel Used		:	Coal
(b) Fuel Consumption		:	Rated – 5.63 MT/hr. (each kiln) Working – 5.12 MT/hr. (each Kiln)
9(a)	Permanent ladder & platform	Yes	(b) Pollution Control Device
			E.S.P with WHRB

B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 125.0
2.	Barometric Pressure (mm of Hg.)	--	: 753.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 8.12
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 53435.45
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 830.49
6.	Concentration of CO ₂ % (v/v)	IS 13270 1992 RA 2003	: 10.2
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0
8.	a) Concentration of Particulate Matter (mg/Nm ³) (at 10.2% CO ₂)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11 (Vol. 3 11.07) : 2011	: 36.44
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 42.87

Remarks : All the information under column A are supplied by the respective industry.
: During monitoring both Rotary Kilns were in operation.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mohuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	30.08.2018
4.	Report No.	:	53/EC/Aug./TR(A)/III/18-19
5.	Analysis completed on	:	01.09.2018
6.	Reporting Date	:	06.09.2018

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	:	AFBC Boiler
2.	Shape of Stack	:	Circular
3.	Material of Construction	:	M.S.
4.	Height of Stack from G. L. (mtr.)	:	45.0
5.	Stack I.D. at sampling point (mtr.)	:	2.20
6.	Height of sampling port from G. L. (mtr.)	:	16.0
7.	Capacity	:	20 TPH (Running – 19 TPH)
8.	Emission due to	:	Oxidation of Coal & Dolochar
(a) Type of Fuel Used		:	Coal
(b) Fuel Consumption		:	Coal – 110 TPD Dolochar – 30 TPD
9(a)	Permanent ladder & platform	Yes	(b) Pollution Control Device
			E.S.P

B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 119.0
2.	Barometric Pressure (mm of Hg.)	--	: 753.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 7.12
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 71554.98
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 648.45
6.	Concentration of CO ₂ % (v/v)	IS 13270 1992 RA 2003	: 11.8
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0
8.	a) Concentration of Particulate Matter (mg/Nm ³) (at 11.8% CO ₂)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11 (Vol. 3 11.07) : 2011	: 37.44
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 38.07

Remarks : All the information under column A are supplied by the respective industry.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018 - 31.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/IV/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Sponge & Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Near Main Gate (Western Side)
2.	Duration of Sampling	: 24 hrs. (09:00 a.m. - 09:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 29.0
2.	Average Relative Humidity (%)	: 67.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Partly Cloudy

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM _{2.5} (μ g/m ³)	USEPA 1997a, 40 CFR Part 50, Appendix L	: 56.66
2.	Concentration of PM ₁₀ (μ g/m ³)	IS 5182 (PART 23) : 2006	: 91.54
3.	Concentration of SO ₂ (μ g/m ³)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved : 2007 : Sec 11 (Vol. 11.07) : 2011	: 16.59
4.	Concentration of NO _x (μ g/m ³)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 35.0
5.	Concentration of CO (mg/m ³)	IS 5182 (Part 10): 1999 reaffirmed 2005 & ASTM D 3162-94 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 0.48
6.	Concentration of Pb (μ g/m ³)	IS 5182 (Part 22) 2004	: <0.01
7.	Benzo (a) Pyrene (BaP) (ng/m ³)	IS 5182 (Part 12) : 2004 & ASTM D 6209-98 reapproved 2004 : Sec 11 (Vol. 11.07) : 2011	: <0.36
8.	Benzene (C ₆ H ₆) (μ g/m ³)	IS 5182 (Part 11) 2006 & ASTM D 5466-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: <0.74
9.	Ozone (O ₃) (μ g/m ³)	IS 5182 (Part-IX) : 1974	: <10.0
10.	Ammonia (NH ₃) (μ g/m ³)	NIOSH Manual of Analytical Method, 4 th Edition 1994, Method 6015, issue 2	: <4.18
11.	Nickel (Ni) (ng/m ³)	EPA IO 3.2, 1999	: <0.02
12.	Arsenic (As) (ng/m ³)	EPA IO 3.2, 1999, APHA 23 rd Ed 3114C : 2017	: <0.01

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



ENVIROCHECK

Laboratory Recognised by MOEF&CC, WBPCB & OSPCB, Accredited by NABL and ISO 14001:2015 & OHSAS 18001:2007 Certified



AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018 - 31.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/V/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Sponge & Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Mohuda Village (0.5 K.M. from Plant) (Southern Side)
2.	Duration of Sampling	: 24 hrs. (09:30 a.m. - 09:30 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 29.0
2.	Average Relative Humidity (%)	: 67.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Partly Cloudy

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM _{2.5} (µg/m ³)	USEPA 1997a, 40 CFR Part 50, Appendix L	: 49.18
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 86.59
3.	Concentration of SO ₂ (µg/m ³)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 7.37
4.	Concentration of NO _x (µg/m ³)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 25.02

Date : 06.09.2018

Authorised Signatory :

Dr. AJAY PAUL
Quality Manager



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AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018 - 31.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/VI/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Sponge & Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Near Railway Siding Area (Northern Side)
2.	Duration of Sampling	: 24 hrs. (10:00 a.m. - 10:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 29.0
2.	Average Relative Humidity (%)	: 67.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Partly Cloudy

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM _{2.5} (μ g/m ³)	USEPA 1997a, 40 CFR Part 50, Appendix L	: 48.29
2.	Concentration of PM ₁₀ (μ g/m ³)	IS 5182 (PART 23) : 2006	: 81.60
3.	Concentration of SO ₂ (μ g/m ³)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 6.45
4.	Concentration of NO _x (μ g/m ³)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 23.87

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



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AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018 - 31.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/VII/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Sponge & Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: On the Roof of Main Administrative Building (Eastern Side)
2.	Duration of Sampling	: 24 hrs. (10:30 a.m. - 10:30 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 29.0
2.	Average Relative Humidity (%)	: 67.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Partly Cloudy

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM _{2.5} (µg/m ³)	USEPA 1997a, 40 CFR Part 50, Appendix L	: 51.70
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 86.22
3.	Concentration of SO ₂ (µg/m ³)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 7.83
4.	Concentration of NO _x (µg/m ³)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 29.97

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



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WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/VIII/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Steel & Power Unit

A] GENERAL INFORMATION

1.	Location of Sampling	: Raw Material Stock Yard (Iron Yard - 2)
2.	Duration of Sampling	: 08 hrs. (10:00 a.m. - 06:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 32.0
2.	Average Relative Humidity (%)	: 69.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM (μ g/ m^3)	NIOSH 0500 : 1994	: 580.10
2.	Concentration of *RPM (μ g/ m^3)	IS 5182 (PART 23) : 2006	: 181.76
3.	Concentration of *SO ₂ (μ g/ m^3)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 6.91
4.	Concentration of *NO _x (μ g/ m^3)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 23.63

Note : The (*) marked parameters are not in NABL Scope.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



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WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/IX/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Steel & Power Unit

A] GENERAL INFORMATION

1.	Location of Sampling	: Inbetween Cooler Discharge (No.1 & 2) and (No.3 & 4)
2.	Duration of Sampling	: 08 hrs. (10:35 a.m. - 06:35 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 33.0
2.	Average Relative Humidity (%)	: 70.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM (μ g/ m^3)	NIOSH 0500 : 1994	: 462.82
2.	Concentration of *RPM (μ g/ m^3)	IS 5182 (PART 23) : 2006	: 191.10
3.	Concentration of *SO ₂ (μ g/ m^3)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 7.60
4.	Concentration of *NO _x (μ g/ m^3)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 26.65

Note : The (*) marked parameters are not in NABL Scope.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



ENVIROCHECK

Laboratory Recognised by MOEF&CC, MBPCB & OSPCB, Accredited by NABL and ISO 14001:2015 & OHSAS 18001:2007 Certified



WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mohuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 30.08.2018
4.	Report No.	: 53/EC/Aug./TR(A)/X/18-19
5.	Analysis completed on	: 01.09.2018
6.	Reporting Date	: 06.09.2018
7.	Particular of Plant	: Steel & Power Unit

A] GENERAL INFORMATION

1.	Location of Sampling	: Near AFBC Boiler (CPP Division)
2.	Duration of Sampling	: 08 hrs. (11:10 a.m. - 07:10 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 36.0
2.	Average Relative Humidity (%)	: 74.0
3.	Barometric Pressure (mm of Hg)	: 753.0
4.	Smell or Odour	: No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM (μ g/ m^3)	NIOSH 0500 : 1994	: 385.24
2.	Concentration of *RPM (μ g/ m^3)	IS 5182 (PART 23) : 2006	: 191.72
3.	Concentration of *SO ₂ (μ g/ m^3)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 8.29
4.	Concentration of *NO _x (μ g/ m^3)	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 28.50

Note : The (*) marked parameters are not in NABL Scope.

Date : 06.09.2018

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 t 033-25792891/25497490, Fax : 033-25299141
 Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 t 033-25792889
 Email : envcheck@cal2.vsnl.net.in/info@envirocheck.org, Website : www.envirocheck.org
 Branch Office : • Siliguri • Haldia • Durgapur • Dhanbad • Gangtok • Port Blair • Dehradun • New Delhi
 Overseas : • Abu Dhabi • Doha • Amsterdam

ANNEXURE 2



EFFLUENT WATER ANALYSIS REPORT

1. Name of the Industry : Bravo Sponge Iron Pvt. Ltd.
2. Address : Vill. – Mohuda. P.O. – Rukni, P.S. – Para, Purulia
– 723145
3. Report No. : Env/36/E/Aug./18-19
4. Date of sampling : 31.08.2018
5. Date of analysis : 31.08.2018 – 05.09.2018
6. Reporting date : 06.09.2018
7. Type of sample : Industrial Effluent Water (Grab)
8. Location of sample : Waste Water Storage Tank
9. Collection & Preservation of sample : APHA 23rd Ed., 1060 : 2017
10. Sample collected in presence of : Mr. Satnarayan Sharma

PARAMETERS	TEST METHODS	RESULTS
1. pH	APHA 23 rd Ed., 4500-H+B : 2017	: 7.12
2. Total Suspended Solids (mg./l)	APHA 23 rd Ed., 2540 D : 2017	: 15.0
3. Oil and Grease (mg./l)	APHA 23 rd Ed., 5520 B/D : 2017	: 3.5
4. COD (mg./l)	APHA 23 rd Ed., 5220 B/C/D : 2017	: 37.82
5. BOD [3 days, 27°C] (mg./l)	APHA 23 rd Ed., 5210-B : 2017	: 5.0

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

ANNEXURE 3

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan',
Bldg. No. - 10A, Block - LA, Sector-III,
Salt Lake City, Kolkata - 700 098



Consent Letter Number : CO100693

apply for renewal of
consent 60 (Sixty) days
before expiry

Memo Number : 2503 - WPBA/Red(Pr1)/Cont(135)/04

Date : 30/11/2016

Consent to Operate

under

Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974 and
Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended, and Rules and Orders made thereunder, hereby grants its consent to :

M/S Bravo Sponge Iron Pvt. Ltd.

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Vill - Mahuda,

P.O - Rukni, P.S - Para,

Dist - Purulia, pin-723145.

(Detailed address of the manufacturing unit)

for a period from up to 31/12/2021

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table 1 & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.



For and on behalf of the State Board

(Member Secretary/Chief Engr./Sr. Engr./Env. Engr./Asst. Env. Engr.)

30/11/16

ANNEXURE

Consent to M/S Bravo Sponge Iron Pvt Ltd.
 for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
 Dist - Purulia, pin - 723145.

Conditions :

1. This Consent is valid for the manufacture of :—

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Sponge iron	5500 MT
02		
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The *Applicant* shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. **Daily** discharge of industrial liquid effluent shall not exceed Nil KL.
04. **Daily** discharge of domestic liquid effluent shall not exceed 4.0 KL.
05. **Daily** discharge of mixed (industrial & domestic) liquid effluent shall not exceed Nil KL.
06. The *Applicant* shall discharge liquid effluent to Septic tank (place of discharge)
 through one (01) nos. outlets/outfalls.
07. To bring into any altered or new outlet/ourfall or to change the place of discharge, the *Applicant* shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The *Applicant* shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the *Standard* as given in Table-I in page 03.

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Continued.....

Consent to M/S Bravo Sponge Iron Pvt Ltd.
 for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
 Dist - Purulia, pin - 723145.

Table - I

Outlet No.	Nature of effluent	Parameters	Standard	Frequency of effluent sampling
01	Domestic	pH	Between : 5.5 to 9.0	yearly
		Total Suspended Solids	Not to exceed : 100 mg/l.	
		Biochemical Oxygen Demand (3day at 27°C)	Not to exceed : 30 mg/l.	
		Chemical Oxygen Demand	Not to exceed : 250 mg/l.	
		Oil & Grease	Not to exceed : 10 mg/l.	

09. The Applicant falls in the ^{Red} Category of the Water (Prevention and Control of Pollution) Cess Act, 1977 and Rules made thereunder and the Applicant shall comply with the provisions of the said Act and Rules made thereunder.

10. **Daily** water consumption for the following purposes should not exceed :-

- Industrial cooling, spraying in mine pits and boiler feed water → 32.0 KL
 (Water used for gardening should be included in this category of use)
- Domestic purpose → 4.0 KL
- Processing whereby water gets polluted and the pollutants are easily biodegradable → Nil KL
- Processing whereby water gets polluted and the pollutants are not easily biodegradable → Nil KL

The Applicant shall regularly submit to the Board the Returns of Water Consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act.

[Handwritten Signature] 30/11/16.
 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

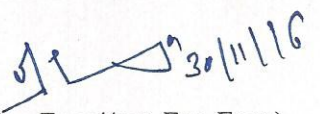
Continued....

Consent to M/S Bravo Sponge Iron Pvt Ltd.
 for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
 Dist - Purulia, pin - 723145.

11. The *Applicant* shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the *State Board*.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The *Applicant* shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the *Standard* as given in Table-II below :

Table - II

Stack No.	Stack height from G.I., (in mts.)	Stack attached to (sources and control system, if any) :	Volume Nm ³ /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed				Frequency of emission sampling
					SPM (mg/Nm ³)	CO (% v/v)			
S-I	30	Rotary Kiln (100 TPD & 95 TPD)	-	-	100	1	-	-	Half yearly
S-2	24	Cooler Discharge	-	-	100	-	-	-	-do-
S-3	30	Product House	-	-	100	-	-	-	-do-
S-4	30	Coal Crusher	-	-	100	-	-	-	-do-
S-5	30	Stock House	-	-	100	-	-	-	-do-
S-6	9	D.G.Set (300 KVA)	-	-	150	1	-	-	-do-
S-7	9	D.G.Set (500 KVA)	-	-	150	1	-	-	-do-
S-8									
S-9									
S-I0									


 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Continued.....

Consent to M/S Bravo Sponge Iron Pvt Ltd.
 for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
 Dist - Purulia. pin - 723145.

11. The *Applicant* shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the *State Board's* staff as well as *State Board's* authorised agencies.
15. The *Applicant* shall observe the following fuel consumption pattern :-

Sl. No.	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Coal	4625 MT/month	Rotary Kiln (100 TPD & 95 TPD).
02	HSD		D.G.Set (500 KVA & 300 KVA).
03			
04			
05			

16. The *Applicant* shall maintain the generation and treatment / disposal of non-hazardous solid waste as specified below :

Type of waste	Quantity	Treatment	Disposal
Dust Iron Process	8 MT	-	Land Filling
Dust Iron APCD	5 MT	-	Land Filling

17. The *Applicant* shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) L_{eq}
Day Time (06 a.m. to 09 p.m.)	65
Night Time (09 p.m. to 06 a.m.)	55

18. The *Applicant* shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
19. The *Applicant* shall bring about at least 33% of the available open land under the green coverage/plantation.
20. The *Applicant* shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the *Applicant* to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the *Applicant* shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.
21. The *Applicant* shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.
22. The *Applicant* shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
23. The *Applicant* shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste.

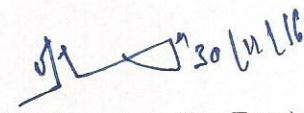
(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Continued.....

Consent to M/S Bravo Sponge Iron Pvt Ltd.
for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
..... Dist - Purulia, pin - 723145.
.....

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* Shall get the samples of hazardous wastes/leachates analysed at least once in..... N.A.
from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, waste water and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form - V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] Rules. 1992.
28. The *Applicant* shall allow the Officers of the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The *Applicant* shall furnish to the *State Board* all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and / or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quality as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident/event including natural disaster. The *Applicant* Shall (i) take all steps adequate to prevent such accident discharge/release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment. (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous, noxious or pollutants to the environment.
34. The *Applicant* shall make an applicant to the *State Board* in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions See Annexure attached.


(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan',
Bldg. No. - 10A, Block-LA, Sector-III,
Salt Lake City, Kolkata-700 098



Consent Letter Number : CO107559

Memo Number : 508 - as - co - 5/10/0135

Expansion

Date : 25/06/2018

Consent to Operate

under Application no. CO0000000184810

Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974 and
Section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended, and Rules and Orders made thereunder, hereby grants its consent to :

M/s. Brave Sponge Iron Pvt. Ltd.

WEST BENGAL

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at Vill: Mahuda, P.O: Rukni, P.S: Para,
Dist. Purulia, Pin - 723145, West Bengal.

(Detailed address of the manufacturing unit)

for a period from the date of issue to 31/12/2021

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation / change / alter the conditions of this consent letter giving one month's notice to the applicant.



For and on behalf of the State Board

28/06/18
Dr. Somnath Narayan
Senior Environmental Engineer
Kankinara Circle Office
West Bengal Pollution Control Board
(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr. or Sr. Env. Engr.)

ANNEXURE

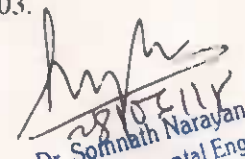
Consent to M/s. Brave Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal,

Conditions :

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Sponge Iron	3000 TPM
02	Dole Char	600 TPM (Captive use)
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. Daily discharge of industrial liquid effluent shall not exceed -- KL.
04. Daily discharge of domestic liquid effluent shall not exceed -- KL.
05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed -- KL.
06. The Applicant shall discharge liquid effluent to -- (place of discharge)
 through -- nos. outlets/outfalls.
07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.

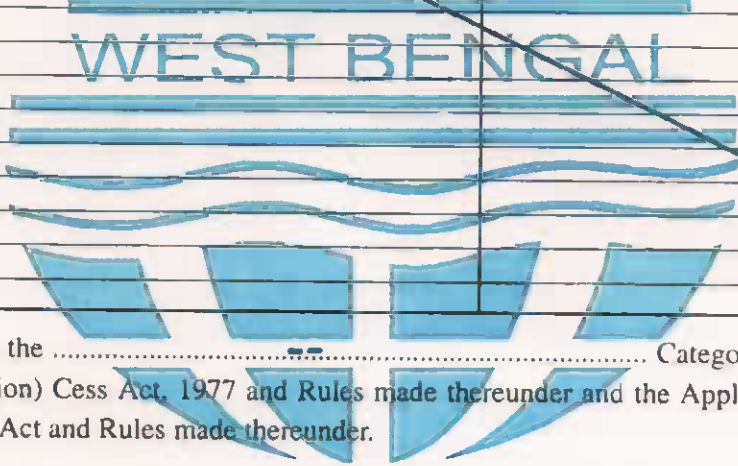

 Dr. Sornath Narayan
 Senior Environmental Engineer
 Purulia Circle Office
 W.B., Pollution Control Board
 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Asst. Engr.)

Continued... P/3

Consent to M/s. Bravo Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal,

Table-I

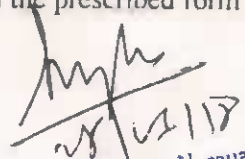
Outlet No.	Nature of effluent	Parameters	Standard	Frequency of effluent sampling
		pH	Between :	
		Total Suspended Solids	Not to exceed :	mg/l.
		Biochemical Oxygen Demand (3day at 27°C)	Not to exceed :	mg/l.
		Chemical Oxygen Demand	Not to exceed :	mg/l.
		Oil & Grease	Not to exceed :	mg/l.



09. The Applicant falls in the Category of the Water (Prevention and Control of Pollution) Cess Act, 1977 and Rules made thereunder and the Applicant shall comply with the provisions of the said Act and Rules made thereunder.

10. Daily water consumption for the following purposes should not exceed :-
- Industrial cooling, spraying in mine pits and boiler feed water → 7.5 KL
 (Water used for gardening should be included in this category of use) -
 - Domestic purpose → KL
 - Processing whereby water gets polluted and the pollutants are easily biodegradable → 7.5 KL
 - Processing whereby water gets polluted and the pollutants are not easily biodegradable → KL

The Applicant shall regularly submit to the Board the Returns of Water Consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act.

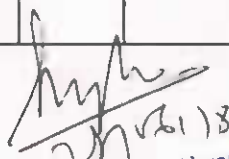

 Dr. Somnath Narayan
 (Member Secretary/Chief Engr./Sr. Env. Engr./Sr. Environmental Engineer)
 Kankinara Circle (Offg.)
 W.B., Pollution Control Board
 Continued..... **P/4**

Consent to M/s. Brave Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal.

11. The Applicant shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the State Board.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The Applicant shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the Standard as given in Table-II below :

Table - II (See Annexure)

Stack No.	Stack height from G.I., (in mts.)	Stack attached to (sources and control system, if any) :	Volume Nm ³ /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed			Frequency of emission sampling
					SPM (mg/Nm ³)	CO (% v/v)		
S-1								
S-2								
S-3								
S-4								
S-5								
S-6								
S-7								
S-8								
S-9								
S-10								


 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asstt. Engr.)
Dr. Somnath Narayan
 Senior Environmental Engineer
 Kankinara Circle Office
 W.B., Pollution Control Board
 Continued Page 05

Consent to M/s, Bravo Sponge Iron Pvt, Ltd.,

for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal.

11. The *Applicant* shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the *State Board's* staff as well as *State Board's* authorised agencies.
15. The *Applicant* shall observe the following fuel consumption pattern :=

Sl. No.	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Coal	-	DRI Kiln (1x100 TPD)
02			
03			
04			
05			

16. The *Applicant* shall maintain the generation and treatment / disposal of non-hazardous solid waste as specified below :

Type of waste	Quantity	Treatment	Disposal
Fly Ash	150 TPM	-	to be disposed of environmentally safe manner.
-	-	-	-

17. The *Applicant* shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) _{L_{eq}}
Day Time (06 a.m. to 09 p.m.)	75
Night Time (09 p.m. to 06 a.m.)	70

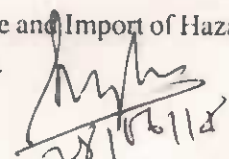
18. The *Applicant* shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
19. The *Applicant* shall bring about at least 33% of the available open land under the green coverage/plantation.
20. The *Applicant* shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the *Applicant* to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the *Applicant* shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.
21. The *Applicant* shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.
22. The *Applicant* shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
23. The *Applicant* shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste.

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)
Dr. Somnath Dasgupta
Senior Environmental Engineer
Kankinara Circle Office
W.B., Pollution Control Board

Consent to M/s. Bravo Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist, Purulia, Pin-723145,
West Bengal.

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* shall get the samples of hazardous wastes/leachates analysed at least once in
 from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, wastewater and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form-V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] Rules. 1992.
28. The *Applicant* shall allow the Officers of the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain an Inspection Book in the factory premises which shall be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection from time to time.
30. The *Applicant* shall furnish to the *State Board* all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and/or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater, if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quantity as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident / event including natural disaster. The *Applicant* shall (i) take all steps adequate to prevent such accidental discharge / release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment. (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous, noxious or pollutants to the environment.
34. The *Applicant* shall make an application to the *State Board* in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions - See Annexure.


 Dr. Somnath Narayan
 Senior Environmental Engineer
 Circle Office
 W.B., Pollution Control Board
 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)



WEST BENGAL POLLUTION CONTROL BOARD
 (Department of Environment, Government of West Bengal)
 Office of the Senior Environmental Engineer
 Kankinara Circle Office
 Kankinara Circle Office
 Panpur More, P.O. – Narayanpur, Kankinara, 24 Parganas (N), Pin – 743 126

SPECIAL CONDITION

Annexure to Consent to Operate Letter Number: CO 107559 of M/s. Bravo Sponge Iron Pvt. Ltd. located at the existing unit at Vill. Mahuda, P.O. Rukni, Dist. Purulia, PIN-722145


1. Conditions mentioned in the Environmental Clearance issued by MOEF Vide No. J. 11011/758/2009 - IA II (I) dated 18/04/2017 must be complied with.
2. Conditions mentioned in the Consent To Establish (NOC) issued by the State Board vide Memo No. 264 2N. 117/2007(E) dated 09/06/ must be complied with.
3. FORM V for Environmental Statement and six monthly compliance report as per condition of Environmental Clearance must be submitted before due date.
4. Emission Standards as mentioned below must be complied with.

Table-II

Sl No.	Stack height from GL (in mts.)	Stack attached to (Sources & control system, if any)	Volume Nm ³ /hr	Velocity of gaseous emission (m/sec)	Concentration of parameters not to exceed					Frequency of sampling
					SPM (mg./ Nm ³)	CO (%v/v)	SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)	NO _x (mg/Nm ³)	
S-1	30.0	3rd DRI Kiln(1x100TPD)	-	-	50 at 12% CO ₂	<1.0	-----	-----	-----	Quarterly
S-2	30.0	Cooler Discharge(common with 4 th DRI Kiln)	-	-	50.0	-	-	-	-	-
S-3	30.0	Intermediate Bin(common with 4 th DRI Kiln)	-	-	50.0	-	-	-	-	-
S-4	30.0	Product House(common with 4 th DRI Kiln)	-	-	50.0	-	-	-	-	-
S-5	30.0	Coal Ground Hopper(common with 4 th DRI Kiln)	-	-	50.0	-	-	-	-	-
S-6	30.0	Iron Ground Hopper(common with 4 th DRI Kiln)	-	-	50.0	-	-	-	-	-

5. Individual stack for DRI Kiln 3 & 4 must be installed to judge the efficacy of the individual ESP of the each kiln. It must be completed within 31.10.2018

6. This Consent to Operate for operation may be revoked at any time for non-compliance of the Environmental Statutes.


 For and on behalf of the Board
 Dr. Somnath Narayan
 Senior Environmental Engineer
 Kankinara Circle Office
 W.B., Pollution Control Board

WEST BENGAL POLLUTION CONTROL BOARD

'Paribesh Bhawan',
Bldg. No. - 10A, Block-LA, Sector-III,
Salt Lake City, Kolkata-700 098



Consent Letter Number : **CO107560**

Memo Number : **SOE - AS - CO - S / 10 / 0135** Expansion

Date : **28/06/2018**

Consent to Operate

under **Application no. CO0000000197599**

Section 25 & 26 of the **Water (Prevention and Control of Pollution) Act, 1974** and
Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981.**

The West Bengal Pollution Control Board (hereinafter referred to as State Board) under the provisions of Section 25 & 26 of the Water (Prevention and Control of Pollution) Act, 1974, as amended and Section 21 of the Air (Prevention and Control of Pollution) Act, 1981, as amended, and Rules and Orders made thereunder, hereby grants its consent to :

M/s. Brave Sponge Iron Pvt. Ltd.,

WEST BENGAL

(Address of Regd. office/Head/Office/City Office)

(hereinafter referred to as Applicant) for its unit located at **Vill: Mahuda, P.O: Rukni, P.S: Para,**
Dist. Purulia, Pin - 723145.

(Detailed address of the manufacturing unit)

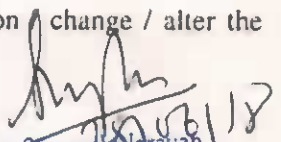
for a period from **the date of issue** to **31/12/2021**

to operate the industrial unit and to discharge liquid effluent and to emit gaseous effluent from the premises/land of the industrial unit, in accordance with the conditions as mentioned in the Annexure to this consent letter provided on any day at any instance the quantity and quality of liquid discharge and gaseous emission shall not exceed the permissible limit as specified in the Table I & II of this consent letter and in the Environmental (Protection) Act, 1986.

Breach of the conditions and / or failure to comply with the directions as set out in the Annexure shall render the applicant liable for prosecution under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

The State Board reserve the right to revoke, withdraw or make any reasonable variation change / alter the conditions of this consent letter giving one month's notice to the applicant.




Dr. Somnath Narayan
Senior Environmental Engineer
Kankinara Circle Office
West Bengal Pollution Control Board

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst.Env.Engr.)

ANNEXURE

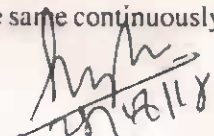
Consent to M/s. Bravo Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin - 723145.

Conditions :

01. This Consent is valid for the manufacture of :-

Sl. No.	Name of major products and by-products	Quantity manufactured per month
01	Sponge Iron (1x100 TPD Kiln)	3000 TPM.
02	Steel Billets (2x12T/heat Induction furnace)	7200 TPM.
03	Captive Power Plant	10 MW
04	(4x10 TPH WHRB+1x20 TPH AFBC Boiler)	
05		
06		
07		
08		
09		
10		
11		
12		

02. The Applicant shall remain responsible for quantity and quality of liquid effluent and air emissions.
03. Daily discharge of industrial liquid effluent shall not exceed KL.
04. Daily discharge of domestic liquid effluent shall not exceed KL.
05. Daily discharge of mixed (industrial & domestic) liquid effluent shall not exceed KL.
06. The Applicant shall discharge liquid effluent to (place of discharge) through nos. outlets/outfalls.
07. To bring into any altered or new outlet/outfall or to change the place of discharge, the Applicant shall have to inform the Board and obtain prior permission of the Board in this effect.
08. The Applicant shall provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste (sewage, sullage and liquid effluent generated from canteen), and operate and maintain the same continuously so that the quality of final effluent conforms to the Standard as given in Table-I in page 03.


 Dr. Somnath Narayan
 Senior Environmental Engineer
 Kankhara Circle Office
 W.B. Pollution Control Board

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

Consent to **M/s. Brave Sponge Iron Pvt. Ltd.,**
 for its unit at **Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145.**

Table-I

Outlet No.	Nature of effluent	Parameters	Standard	Frequency of effluent sampling
		pH	Between :	
		Total Suspended Solids	Not to exceed : mg/l.	
		Biochemical Oxygen Demand (3day at 27°C)	Not to exceed : mg/l.	
		Chemical Oxygen Demand	Not to exceed : mg/l.	
		Oil & Grease	Not to exceed : mg/l.	

09. The Applicant falls in the Category of the Water (Prevention and Control of Pollution) Cess Act, 1977 and Rules made thereunder and the Applicant shall comply with the provisions of the said Act and Rules made thereunder.

10. Daily water consumption for the following purposes should not exceed :-

- Industrial cooling, spraying in mine pits and boiler feed water → **1164.0** KL
(Water used for gardening should be included in this category of use)
- Domestic purpose → **30.0** KL
- Processing whereby water gets polluted and the pollutants are easily biodegradable → **--** KL
- Processing whereby water gets polluted and the pollutants are not easily biodegradable → **--** KL

The Applicant shall regularly submit to the Board the Returns of Water Consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act.


 Dr. Somnath Narayan
 Senior Environmental Engineer
 Kankinara Circle Office

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)
 West Bengal Pollution Control Board

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 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist, Purulia, Pin-723145.

11. The Applicant shall install suitable device for measuring the volume of water consumed for different purposes as mentioned above giving correct result to the satisfaction of the State Board.
12. All the stacks connected to various sources of emissions must be designated by numbers such as S-1, S-2, S-3, etc., and this must be painted/displayed to facilitate identification.
13. The Applicant shall install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants of the Standard as given in Table-II below :

Table - II (See Annexure)

Stack No.	Stack height from G.I., (in mts.)	Stack attached to (sources and control system, if any) :	Volume Nm ³ /hr.	Velocity of gas emission m/sec	Concentrations of parameters not to exceed			Frequency of emission sampling
					SPM (mg/Nm ³)	CO (% v/v)		
S-1								
S-2								
S-3								
S-4								
S-5								
S-6								
S-7								
S-8								
S-9								
S-10								

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

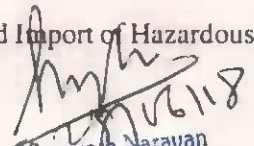
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 Dr. Somnath Narayan
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 Karimnagar Circle Office
 W.B., Pollution Control Board

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Consent to M/s. Brave Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145.

24. The *Applicant* shall maintain a separate register showing consumption of chemicals used in pollution control systems.
25. The *Applicant* shall get the samples of hazardous wastes/leachates analysed at least once in
 from the laboratory recognised of the West Bengal Pollution Control Board and ensure that they conform to the limits stipulated. Test reports shall be sent to the Board.
26. The *Applicant* shall provide adequate and safe facility for collection of air, wastewater and solid waste samples by the *State Board's* staff as well as *State Board's* authorised agencies.
27. The *Applicant* shall submit to the *State Board* by the 30th September of every year the Environmental Statement Report for the financial year ending 31st March of the current year in the prescribed form (Form-V) as required under the provisions of rule 14 of the Environment (Protection) [Second Amendment] Rules. 1992.
28. The *Applicant* shall allow the Officers of the *State Board* to enter into the applicant's premises at any reasonable time to inspect the pollution control systems as well as monitoring and measuring devices in connection with prevention & control of pollution.
29. The *Applicant* shall maintain ~~an Inspection Book in the factory premises which shall~~ be made available to Officers & employees of the *State Board* for inspection, review and to write down any direction or observation as is deemed necessary during the inspection ~~from time to time.~~
30. The *Applicant* shall ~~furnish to the State Board~~ all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.
31. The *Applicant* shall maintain adequate number of qualified and trained personnel among his staff for proper maintenance and operation of the effluent treatment and/or emission control devices and for overall environment management of the industry.
32. The *Applicant* shall have to make registration for the use of groundwater, if any, with Central Ground Water Authority.
33. The *Applicant* shall intimate to the *State Board* immediately of any occurrence or apprehension of occurrence of discharge of any poisonous, noxious or pollutants in excess of quality as well as quantity as mentioned earlier to any receiving water body/receiving system or to atmosphere owing to accident or other unforeseen incident / event including natural disaster. The *Applicant* shall (i) take all steps adequate to prevent such accidental discharge / release of poisonous, noxious or pollutants and to limit their consequences to persons and the environment. (ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and mitigate the accidental release of poisonous, noxious or pollutants to the environment.
34. The *Applicant* shall make an application to the *State Board* in the prescribed form for renewal of the consent at least 60 (sixty) days before the date of expiry of this Consent.
35. The *Applicant* shall not make any alternation/modification/expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.
36. The *Applicant* shall comply with the conditions as laid down in the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Additional Conditions - See Annexure.


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 W.B. Pollution Control Board
 (Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst.Env.Engr.)

Consent to **M/s. Bravo Sponge Iron Pvt. Ltd.,**
 for its unit at **Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145.**

11. The *Applicant* shall provide ports in the stack(s) and other necessary permanent facilities such as ladder, platform, etc. for monitoring/sampling the air emissions and the same shall be made available for inspection and use by the *State Board's* staff as well as *State Board's* authorised agencies.
15. The *Applicant* shall observe the following fuel consumption pattern :-

Sl. No.	Type of fuel	Quantity consumed per day	Fuel burning operation where the fuel is used
01	Coal	-	DRI Kiln (1x100 TPD) and
02	-	-	AFBC Boiler (1x20 TPH).
03	-	-	
04			
05			

16. The *Applicant* shall maintain the generation and treatment / disposal of non-hazardous solid waste as specified below :

Type of waste	Quantity	Treatment	Disposal
Dolochar	448 TPM	-	Captive use.
Ash	-	-	to be sold to cement manufacture.

17. The *Applicant* shall take adequate measures for control of noise levels from its own sources within the premises within the limit given below :-

Time	Limit in dB(A) L_{ra}
Day Time (06 a.m. to 09 p.m.)	75
Night Time (09 p.m. to 06 a.m.)	70

18. The *Applicant* shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
19. The *Applicant* shall bring about at least 33% of the available open land under the green coverage/plantation.
20. The *Applicant* shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the *Applicant* to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the *Applicant* shall stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.
21. The *Applicant* shall install a separate energy meter showing the consumption of energy for operation of pollution control devices.
22. The *Applicant* shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
23. The *Applicant* shall provide drainage system for conveying industrial and domestic liquid waste. Storm-water drain shall be kept separate from the drainage system meant for industrial and domestic liquid waste.

(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

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WEST BENGAL POLLUTION CONTROL BOARD
 (Department of Environment, Government of West Bengal)
 Office of the Senior Environmental Engineer
 Kankinara Circle Office
 Kankinara, P.O. – Narayanpur, Kankinara, 24 Parganas (N), Pin – 743 126

SPECIAL CONDITION


Annexure to Consent to Operate Letter Number CO 107560 of M/s. Bravo Sponge Iron Pvt. Ltd located at the existing unit at Vill. Mahuda, P.O.-Rukni, Dist. Purulia, PIN 722145

1. Conditions mentioned in the Environmental Clearance issued by MOEF Vide No. J. 11011/758/2009 – IA-II (I) dated 18/04/2017 must be complied with
2. Conditions mentioned in the Consent To Establish (NOC) issued by the State Board vide Memo No. 264 2N 117/2007(F) dated 09/06/ must be complied with.
3. FORM V for Environmental Statement and six monthly compliance report as per condition of Environmental Clearance must be submitted before due date.
4. Emission Standards as mentioned below must be complied with.

Table II

Sl No.	Stack height from GL (in mts.)	Stack attached to (Sources & control system, if any)	Volume Nm ³ /hr	Velocity of gaseous emission (m/sec)	Concentration of parameters not to exceed					Frequency of sampling
					SPM (mg./Nm ³)	CO (%v/v)	SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)	NO _x (mg/Nm ³)	
S-1	45.0	AFBC Boiler(1x20TPH)	-	-	50 at 12% CO ₂	<1.0	600 at 6% O ₂	300 at 6% O ₂	300 at 6% O ₂	Quarterly
S-2	30.0	4 th DRI Kiln(1x100TPD)	-	-	50 at 12% CO ₂	<1.0	-----	-----	-----	-----
S-3	30.0	Cooler Discharge	-	-	50.0	-	-	-	-	-
S-4	30.0	Intermediate Bin	-	-	50.0	-	-	-	-	-
S-5	30.0	Product House	-	-	50.0	-	-	-	-	-
S-6	30.0	Coal Ground Hopper	-	-	50.0	-	-	-	-	-
S-7	30.0	Iron Ground Hopper	-	-	50.0	-	-	-	-	-
S-8	30.0	Induction Furnace(2x12T/Heat each)	-	-	50.0	-	-	-	-	-

5. This Consent to Operate for operation may be revoked at any time for non compliance of the Environmental Statutes.


 for and on behalf of the Board
Dr. Somnath Narayan
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 Kankinara Circle Office
 W.B., Pollution Control Board