

Ref: - BSIPL/SMC/MoEF/April 2019-Sept. 2019

Date:17/12/2019

To,
The Dy. Director General of Forests (Central)
Eastern Regional Office,
Ministry of Environment Forests & Climate Change,
A/3, Chandrashekharpur, Bhubaneswar - 751023 (Odisha)

SUB: Six Monthly (April 2019 to Sept. 2019) Compliance to Environmental Clearance conditions vide MoEF F. No. J-11011/758/2009-IA.II (I), Dated. 18th April, 2017 by M/s Bravo Sponge Iron Pvt. Limited, Vill-Mahuda, PO-Rukni. Dist- Purulia (WB)

Dear Sir,

With reference to above, we are submitting herewith the six monthly compliance report (Period April 2019 to Sept. 2019) of M/s Bravo Sponge Iron Pvt. Limited, Vill-Mahuda, PO-Rukni, Dist- Purulia (WB) as per the directives of Ministry of Environment Forest and Climate Change, Government of India. Point wise compliance status report, latest environment monitoring data along with soft copy in CD is enclosed for your kind perusal. Hope you will find the same in order.

Kindly acknowledge our submission.

Thanking You.

Yours faithfully,

For Bravo Sponge Iron Pvt. Limited

Authorized Signatory

Encl: as above

Copy to:

The Sr. Environmental Engineer, West Bengal Pollution Control Board, Asansol Regional Office, ADDA Commercial Market (2nd Floor), Oppo. Asansol Fire Station, GT Road, Asansol-713301 Dist-Paschim Burdwan (WB).

INDIA POST
ENC76910937IN INR:698737691093
SP ELL101 ROAD GO (700016)
Counter No:2, 18/12/2019, 17:36
To: DY DIRECTOR G.A/3 CHANDRASHEKHAR
PIN:751023, S.E. Rly. Proj. Complex S.O
From: BRAVO S IRON PVT. LTD PRESTIGE
WILDFONS
Amt:106.20(Cash)Tax:16.20
<Track on www.indiapost.gov.in>
<Dial 1800 266 8868>

SIX MONTHLY COMPLIANCE REPORT

April, 2019 - September, 2019



Prepared by:

Bravo Sponge Iron Pvt. Limited

Village- Mahuda, P.O-Rukni, Dist – Purulia, West Bengal



BRAVO SPONGE IRON PVT. LIMITED

COMPLIANCE STATUS ON ENVIRONMENTAL CLEARANCE

Vide MoEF & CC F. No. : J-11011/758/2009-IA.II(I), Dated. 18th April, 2017

COMPLIANCE PERIOD:

APRIL-2019 TO SEPTEMBER-2019

INTRODUCTION

M/S Bravo Sponge Iron Pvt. Ltd. was accorded the Environmental Clearance No. J-11011/758/2009-IA.II (I), Dated. 18thApril, 2017 for Expansion of Sponge Iron Plant 195 TPD to 395 TPD and installation of Billet Manufacturing Unit (600 TPD), Rolling Unit 600 TPD along with Captive Power plant (18 MW) located at Village- Mahuda, PO-Rukni, Dist-Purulia, West Bengal.

Six Monthly EC Compliance Report is submitted in the following pages for the period of **April 2019 to September 2019**.



COMPLIANCE REPORT

A- SPECIFIC CONDITIONS:		
Sl. No.	CONDITIONS	COMPLIANCE STATUS
1.	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.	We have installed 24x7 OCEMS connected to CPCB portal to monitor the air emissions. Latest stack monitoring report is attached as Annexure 1 .
2	In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Dust extraction and suppression system shall be provided at all the transfer points, coal handling plant etc. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading handling and storage of raw materials etc.	We have already installed de-dusting systems like bag filters and ESPs for an effective control of dust emissions. Dust extraction system has been provided at the strategic points attached with bag filter units for cooler discharge, intermediate bin and product house and separation house. Fixed type water sprinklers for dust suppression at raw material handling system along the conveyor, finished product house area, cooler discharge, along with Kiln axis and all other strategic locations. BSIPL have deployed movable water tankers for dust suppression on the road and minimizing fugitive emissions. Latest fugitive emissions monitoring report is attached as Annexure-2
3.	The COD level in the effluent should be maintained at the prescribed standard and the STP effluent is to be recycled within the premises.	Recycle and Reuse practice has been adapted by us and no effluent being discharged outside factory premises. For domestic effluent septic tank followed by soak pit facility has been provided. Effluent analysis report is enclosed as Annexure-3



4.	No effluent shall be discharged outside the plant premises and 'zero' discharge shall be adopted.	We are adapting recycle, reuse and reduce practice and no effluent being discharged outside the factory premises.
5.	Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control device viz. Electrostatic Precipitator (ESP), bag house, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm ³ and installing energy efficient technology.	<p>Online Continuous Emission Monitoring System (OCEMS) have been installed at Stacks of DRI and CPP.</p> <p>Air pollution control devices viz. ESPs and bag filters along with dust extraction and suppression system have been installed and efficiently operated to control emission level well within the norms.</p> <p>Third party monitoring by NABL accredited laboratory being conducted periodically to evaluate the emission levels.</p> <p>Latest stack monitoring report is enclosed as Annexure-1</p>
6.	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.	All possible attempts are made to ensure optimal use of water within the factory premises. There is rain water harvesting pond to harvest the rain water and reduce the water consumption.
7.	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 raw coal from the linked	<p>Concreting of internal road from main entrance gate to the DRI plant is already completed. Further, RCC works of other interconnecting roads are under progress. Annexure-4</p> <p>Progressive measures are being taken to develop avenue plantation using</p>



	coalmines shall be created within the Unit.	indigenous species i. e. Mehagini, Segun, Pakur, Radhachura, Neem, Bakul, Shishu, Jarul, Arjuna, Sonajuri, Kadam, Pepal etc. along the plant periphery as well as inside the plant and Approx. 4400 plants have been planted. Some pics are attached as Annexure-5
8.	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.	It is being followed. Latest Ambient Air Quality Monitoring report is attached as Annexure-6
9.	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.	Suitable control measures have been undertaken to keep Gaseous emission levels including secondary fugitive emissions within the latest permissible limits. Latest work zone (Fugitive Emission) monitoring report is enclosed as Annexure-2
10.	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.	Regular monitoring being done for effluent, surface and ground water. Latest monitoring report of surface and ground is enclosed as Annexure-7A & 7B
11.	Proper handling, storage, utilization and disposal of 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 or CPCB.	Proper handling, storage, utilization and disposal of solid waste being done. Analysis of toxic metal content in the solid waste being periodically carried out by approved agency. The monitoring report is enclosed as Annexure-8



12.	A time bound action plan shall be submitted to reduce solid waste generated due to the project related activity, its proper utilization and disposal.	<p>The entire Dolochar generated from sponge iron plant is being utilized in AFBC boiler of the captive power plant.</p> <p>Fly ash is being utilized in fly ash brick manufacturing.</p> <p>Induction Furnace slag and Bottom Ash are being used for land filling and road construction work.</p>
13.	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.	All the fly ash generated within the plant is provided to brick manufacturers for further utilization. Accordingly company has made the agreement with various vendors for the same. Copies of the agreements are enclosed as Annexure-9
14.	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.	Complied.
15.	10-15 m 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.	<p>We have already started development of extensive greenery in consultation with local DFO involving indigenous and broad leaved species.</p> <p>Till date around 4400 trees have been planted some pictures of the plantation are enclosed as Annexure-5</p> <p>Development of Greenery is an ongoing program and we shall be able to complete required plantation within the stipulated time frame.</p>



16.	All the commitments made to the public during Public Hearing/public consultation meeting shall be satisfactorily implemented and adequate budget provision shall be made accordingly.	It is being complied and we are in the process of regular compliance of commitments made during public hearing i.e. up gradation of educational facilities, organizing health checkup camps for nearby villagers, abatement of pollution, providing necessary PPEs to the workers for safety etc. BSIPL have dedicated HR department to take care of CSR activities.
17.	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 amount earmarked is exclusively used for implementation of Enterprise Social Commitment. Our expenditures incurred towards facilitating study materials to the nearby school students, infrastructure development in the schools, organizing free medical health checkup and medicine distribution camp for nearby villagers, plants distribution for encouragement of social forestry, drinking water supply and social causes etc.
18.	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) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or	It is compiled and already submitted. BSIPL have implemented standard operating procedure to look into any infringement/ deviation/violation of environmental or forest norms/ conditions. BSIPL have also the Hierarchical system/ Administrative order to deal with environmental issues and compliance of EC conditions. <div style="text-align: center;"> <p>Chief Managing Director</p> <p>↓</p> <p>ED Corporate</p> <p>↓</p> <p>Vice President-Technical</p> <p>↓</p> <p>AGM-EHS</p> <p>↓</p> <p>Head of operation</p> </div>



	stakeholders or shareholders.	<p>BSIPL have in placed reporting system for non-compliance/violation of environmental norms.</p> <p style="text-align: center;">Board of Directors ↓ Chief Managing Director ↓ ED Corporate ↓ Vice President-Technical ↓ AGM-EHS ↓ Head of operation</p>
19.	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.	We have already started installation of the solar lighting system in strategic areas as directed.
20.	The project proponent shall provide for LED lights in their offices and residential areas.	Complied.
21.	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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	It is being complied.
B- GENERAL CONDITIONS:		
1.	The project authorities must strictly adhere to the stipulations made by the West Bengal Pollution Control Board and the State Government.	Being adhered as per the stipulation made by WBPCB and State Government. Consent to Operate obtained from WBPCB is attached as Annexure-10



2.	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).	It shall be complied with.
3.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.	Ambient Air Quality Monitoring being carried on as per direction in consideration of maximum ground level concentration of SPM, SO ₂ , and NO _x . Latest Ambient Air Quality monitoring reports for PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and stack monitoring report is enclosed in Annexure-6 .
4.	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.	Being complied
5.	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. 75 dB(A) during day time and 70 dB(A) during night time.	Noise control measures has already been implemented to keep the noise level well within the 85 dB(A) and ambient noise level below 75 dB(A) (during day time) and 70 dB(A) (during night time). Work Zone and Ambient Noise Monitoring report is enclosed as Annexure-11A & 11B



6.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance program has been taken as a regular exercise for the employees and records are maintained. Health cards of some employees are enclosed as Annexure-12
7.	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 within the plant to harvest the rain water.
8.	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 socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Environmental protection measures have been implemented for effective compliance of safe guards recommended in EIA/EMP reports.
9.	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.	Requisite funds have been earmarked towards capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by MoEF & CC. Accordingly necessary facilities like ESPs, attached with AFBC and WHRB followed by silos, bag filters along with dust extraction system, Water sprinkling system for fugitive dust suppression, water tankers for dust suppression on roads, green belt development and water recycling system etc. have been installed for abatement of the environmental pollution. Suitable manpower have been engaged for an efficient operation, monitoring and maintenance of the devices installed.



10.	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.	Clearance letter is sent to concerned local body. The EC copy is attached as Annexure-13
11.	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 Bhubaneshwar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM ₁₀ , SO ₂ , NO _x (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.	Being complied.
12.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by 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.	Six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data being submitted to MoEF & CC and Pollution Control Board in both soft & hard copies.



13.	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 Bhubaneshwar by e-mail.	Being complied. The Environment Statement has been submitted to WBPCB and copy of the same sent to Regional Office of the MoEF & CC, Bhubaneswar. Receipt copy attached as Annexure-14
14.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF & CC) at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bhubaneswar.	Complied.
15.	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.	Financial closure as well as date of start of land development work has already been informed.



DETAILS OF ENVIRONMENTAL MONITORING

1. AMBIENT AIR QUALITY MONITORING

Ambient Air Quality Monitoring Stations

Ambient air quality monitoring has been carried out in the month of June, 2019 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 Security Gate	Sponge SMS and Power Plant
2.	AAQ-2	Mahuda Village	Sponge SMS and Power Plant
3	AAQ-3	Near Railway Siding Area	Sponge SMS and Power Plant
4	AAQ-4	Roof of Adm Building	Sponge SMS 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

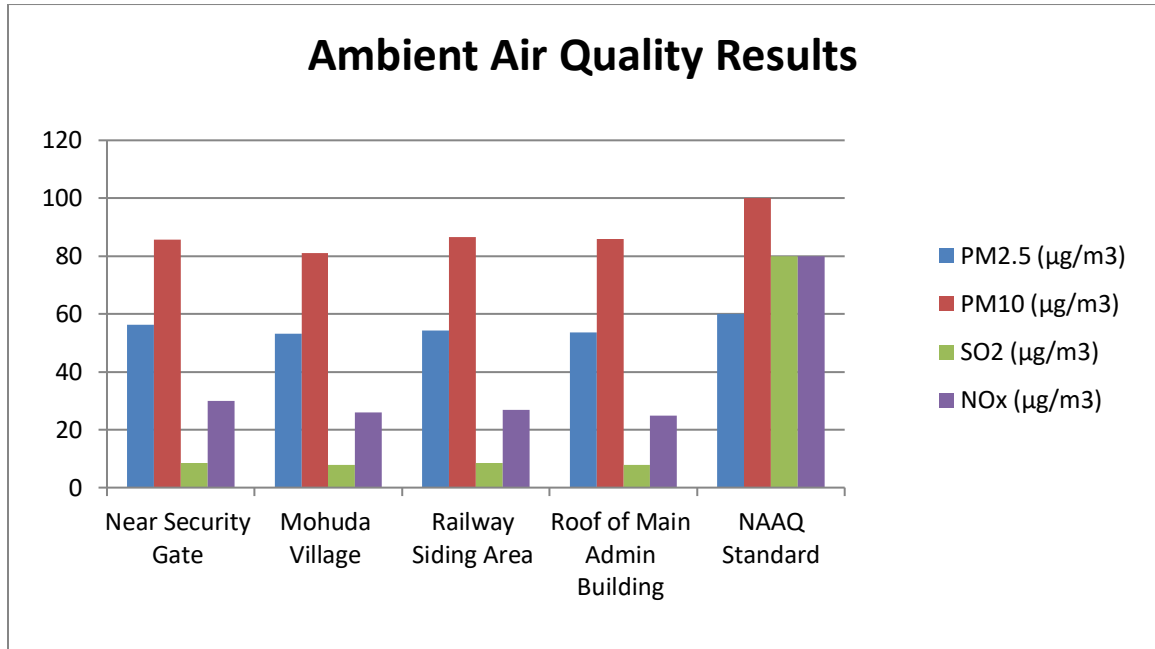
S. No.	Parameter	Technique	Technical Protocol
1	Particulate Matter 2.5 (PM _{2.5})	USEPA 1997a, 40 CFR Part 50, Appendix L	IS-5182 (Part-IV)
2	Particulate Matter 10 (PM ₁₀)	IS 5182 (PART 23) : 2006	IS-5182 (Part-23)
3	Sulphur dioxide	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 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}, PM₁₀, SO₂ and NO_x are presented in Table 1.3.

Table 1.3 Ambient Air Quality Monitoring Results

	27.06.2019 – 28.06.2019	Near Security Gate	Mohuda Village	Railway Siding Area	Roof of Main Admin Building	NAAQ Standard
April, 2019 to September, 2019	Concentration of PM _{2.5} (µg/m ³)	56.25	53.10	54.21	53.55	60
	Concentration of PM ₁₀ (µg/m ³)	85.65	80.97	86.51	85.98	100
	Concentration of SO ₂ (µg/m ³)	8.50	7.86	8.50	7.86	80
	Concentration of NO _x (µg/m ³)	30.04	26.06	26.84	24.97	80



Discussion on Ambient Air Quality in the Study Area

The level of PM₁₀ and PM_{2.5}, SO₂ and NO_x near Security 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 sample was taken on 27th June, 2019.

The details of the stack attached are given in tabular form in **Table 2.1**:

Results of the stack attached to Rotary Kiln (No 1 & 2)

Parameters	Results	Methods
Flue Gas Temperature (°C)	132.0	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	756.0	--
Velocity of Gas flow (m/s)	10.28	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	73171.75	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	570.50	IS 11255 (Part 2) 1985 RA 2003
Concentration of CO ₂ %(v/v)	10.8	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 10.8% CO ₂)	19.44	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)	21.60	

Table 2.2 Results of the stack attached to Rotary Kiln (No 3 & 4)

Parameters	Results	Methods
Flue Gas Temperature (°C)	128.0	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	756.0	--
Velocity of Gas flow (m/s)	10.25	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	65814.34	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	530.80	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)	25.51	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011 (mg/Nm3) (at 12% CO ₂)
Concentration of Particulate Matter	29.43	

Table 2.3 Results of the stack attached to 2 Nos. x 15 Ton Induction Furnace

Parameters	Results	Methods
Flue Gas Temperature (°C)	50.0	IS : 11255 (Part 1)
Velocity of Gas flow (m/s)	756.0	IS : 11255 (Part 3)
Barometric Pressure (mm of Hg.)	9.24	-
Quantity of Gas flow (Nm ³ /hr.)	10122.07	IS : 11255 (Part III)
Concentration of Particulate Matter (mg/Nm ³)	31.28	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011

Table 2.4 Results of the stack attached to AFBC Boiler

Parameters	Results	Methods
Flue Gas Temperature (°C)	125.0	IS : 11255 (Part 1)
Barometric Pressure (mm of Hg.)	756.0	--
Velocity of Gas flow (m/s)	7.30	IS : 11255 (Part 3)
Quantity of Gas flow (Nm ³ /hr.)	72783.51	IS : 11255 (Part III)
Concentration of SO ₂ (mg/Nm ³)	560.0	IS 11255 (Part 2) 1985 RA 2003
Concentration of NO _x (mg/Nm ³)	265.0	
Concentration of CO ₂ %(v/v)	11.0	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 10.8% CO ₂)	32.50	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)	35.45	

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 27th June 2019 for fugitive analysis. The results are given in tabular form

Table 3.1 Results of Fugitive Air Analysis inside the Coal Yard

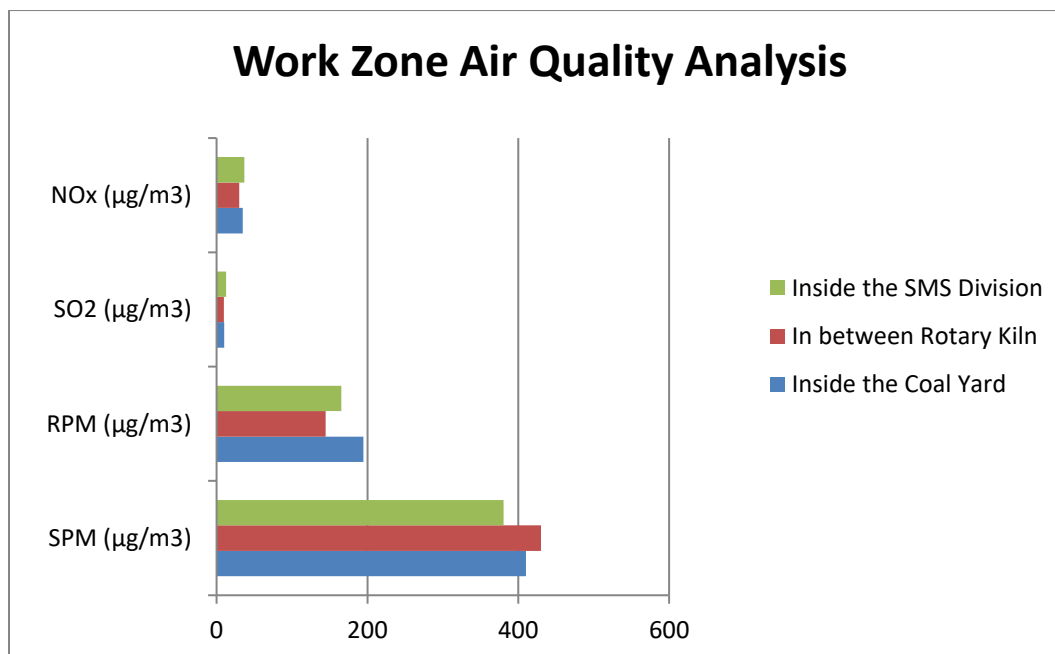
PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	410.25
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	194.56
Concentration of *SO ₂ ($\mu\text{g}/\text{m}^3$)	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	10.20
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	34.88

Table 3.2 Results of Fugitive Air analysis in between Rotary Kiln –

PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	430.03
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	144.79
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	9.56
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	29.97

Table 3.3 Results of Fugitive Air Analysis near inside the SMS Division-

PARAMETERS	METHOD NO.	RESULTS
Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	380.48
Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	165.29
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	12.75
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	36.76



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	Cooling Water Storage Tank

Methodology of Effluent Water Quality Monitoring.

Sampling of effluent water was carried out on 27th June, 2019. 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	: 7.10	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 rd Ed., 2540 D : 2017	: <10	100.0
3. Oil and Grease (mg./l)	APHA 23 rd Ed., 5520 B/D : 2017	: <1.0	10.0
4. COD (mg./l)	APHA 23 rd Ed., 5220 B/C/D : 2017	: 25.0	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 rd Ed., 5210-B : 2017	: 06.0	30.0

5. Environmental Noise Monitoring

The main objective of noise monitoring in the study area is to assess the present ambient noise levels in project site due to various construction allied activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at 4 locations in the month of June, 2019, which is given in tabular form below.

Table 5.1 Results of Ambient Noise Level Study

Location	Monitoring Session	Time	Minimum [dB(A)]	Maximum [dB(A)]	Leq [dB(A)]
Near Security Gate	Day time monitoring	9:00-9:20 (A.M)	62.5	64.8	62.5
	Night time monitoring	10:00-10:20 (P.M)	52.6	53.8	52.89
Mohuda Village	Day time monitoring	9:00-9:20 (A.M)	51.6	53.8	53.20
	Night time monitoring	10:00-10:20 (P.M)	41.20	44.8	43.21
Near Railway Siding Area	Day time monitoring	9:00-9:20 (A.M)	60.1	63.5	62.90
	Night time monitoring	10:00-10:20 (P.M)	50.3	52.6	51.78
Near Main Administrative Building	Day time monitoring	9:00-9:20 (A.M)	68.2	72.1	70.10
	Night time monitoring	10:00-10:20 (P.M)	62.8	66.2	64.20

Methodology of Noise Monitoring

Noise levels were measured using integrated sound level meter manufactured by Mastech. The integrating sound level meter is an integrating/ logging type with Octave filter attachment with frequency range of 31.5 to 16000Hz. This instrument is capable of measuring the Sound Pressure Level (SPL), Leq and octave band frequency analysis.

Discussion on Ambient Noise Levels in the Study Area

Day Time Noise Levels (L_{day}):

The day time noise level was found within limit prescribed for Industrial area i.e. 75 dB (A).

Night Time Noise Levels (L_{night}):

The night time noise level was found within limit prescribed for Industrial area i.e. 70 dB (A)

ANNEXURE 1



STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	27.06.2019
4.	Report No.	:	58/EC/June/TR(A)/1/19-20
5.	Analysis completed on	:	01.07.2019
6.	Reporting Date	:	07.07.2019

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	:	Rotary Kiln No. 1 & 2
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	:	No.1 – 100 TPD & No.2 – 95 TPD
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)	: 132.0
2.	Barometric Pressure (mm of Hg.)	--	: 756.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 10.28
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 73171.75
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 570.50
6.	Concentration of CO ₂ % (v/v)	IS 13270 1992 RA 2003	: 10.8
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0
8.	a) Concentration of Particulate Matter (mg/Nm ³) (at 10.8% CO ₂)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol. 3 11.07) : 2011	: 19.44
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 21.60

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

Date : 07.07.2019

Authorised Signatory :

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STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	27.06.2019
4.	Report No.	:	58/EC/June/TR(A)/II/19-20
5.	Analysis completed on	:	01.07.2019
6.	Reporting Date	:	07.07.2019

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	:	Rotary Kiln No. 3 & 4
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	:	100 TPD (each)
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)	: 128.0
2.	Barometric Pressure (mm of Hg.)	--	: 756.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 10.25
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 65814.34
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 530.80
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	: 25.51
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 29.43

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

Date : 07.07.2019

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STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	27.06.2019
4.	Report No.	:	58/EC/June/TR(A)/III/19-20
5.	Analysis completed on	:	01.07.2019
6.	Reporting Date	:	07.07.2019

A. GENERAL INFORMATION ABOUT STACK

1.	Stack attached to	:	2 Nos. x 15 Ton Induction Furnace attached to common stack
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.)	:	0.65
6.	Height of sampling port from G. L. (mtr.)	:	--
7.	Capacity	:	2 x 15 Ton/Batch
8.	Emission due to	:	Melting of Sponge Iron, Pig Iron & Scraps
(a) Type of Fuel Used		:	Electrically Operated
(b) Fuel Consumption		:	Nil
9.(a)	Permanent ladder & platform	Yes	(b) Pollution Control Device
			Bag Filter

B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	50.0
2.	Barometric Pressure (mm of Hg.)	--	756.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	9.24
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	10122.07
8.	Concentration of Particulate Matter (mg/Nm ³)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol. 3 11.07) : 2011	31.28

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

Date : 07.07.2019

Authorised Signatory :

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STACK GAS ANALYSIS REPORT

1.	Name of the Industry	:	Bravo Sponge Iron Pvt. Ltd.
2.	Address	:	Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	:	27.06.2019
4.	Report No.	:	58/EC/June/TR(A)/XII/19-20
5.	Analysis completed on	:	01.07.2019
6.	Reporting Date	:	07.07.2019

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 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.)	--	: 756.0
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 7.30
4.	Quantity of Gas flow (Nm ³ /hr.)	IS : 11255 (Part III)	: 72783.51
5.	Concentration of SO ₂ (mg/Nm ³)	IS 11255 (Part 2) 1985 RA 2003	: 560.0
6.	Concentration of NO _x (mg/Nm ³)	IS : 11255 (Part 7) 2005 & ASTM D 1608-98 reapproved 2009 : Sec 11 (Vol. 11.07) : 2011	: 265.0
7.	Concentration of CO ₂ % (v/v)	IS 13270 1992 RA 2003	: 11.0
8.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0
9.	a) Concentration of Particulate Matter (mg/Nm ³) (at 11% CO ₂)	IS 11255 (Part – 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11 (Vol. 3 11.07) : 2011	: 32.50
	b) Concentration of Particulate Matter (mg/Nm ³) (at 12% CO ₂)		: 35.45

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

Date : 07.07.2019

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ANNEXURE 2



WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019
4.	Report No.	: 58/EC/June/TR(A)/VIII/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Inside the Coal Yard
2.	Duration of Sampling	: 08 hrs. (11:00 a.m. – 07:00 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 36.0
2.	Average Relative Humidity (%)	: 72.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	: 410.25
2.	Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	: 194.56
3.	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	: 10.20
4.	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	: 34.88

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

Date : 07.07.2019

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager



WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. - Mahuda. P.O. - Rukni, P.S. - Para, Purulia - 723145
3.	Date of sampling	: 27.06.2019
4.	Report No.	: 58/EC/June/TR(A)/IX/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Inbetween Rotary Kiln (No.1 & 2) and (No.3 & 4)
2.	Duration of Sampling	: 08 hrs. (11:20 a.m. - 07:20 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature ($^{\circ}$ C)	: 33.0
2.	Average Relative Humidity (%)	: 70.0
3.	Barometric Pressure (mm of Hg)	: 756.0
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	: 430.03
2.	Concentration of *RPM (μ g/ m^3)	IS 5182 (PART 23) : 2006	: 144.79
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	: 9.56
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	: 29.97

Note : The Parameters marked with an (*) are not Accredited by NABL

Date : 07.07.2019

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WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019
4.	Report No.	: 58/EC/June/TR(A)/X/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Inside the SMS Division (Near Induction Furnace Area)
2.	Duration of Sampling	: 08 hrs. (11:40 a.m. – 07:40 p.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 34.0
2.	Average Relative Humidity (%)	: 74.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell

C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM ($\mu\text{g}/\text{m}^3$)	NIOSH 0500 : 1994	: 380.48
2.	Concentration of *RPM ($\mu\text{g}/\text{m}^3$)	IS 5182 (PART 23) : 2006	: 165.29
3.	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	: 12.75
4.	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	: 36.76

Note : The Parameters marked with an (*) are not Accredited by NABL

Date : 07.07.2019

Authorised Signatory :

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Quality Manager

ANNEXURE 3



EFFLUENT WATER ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda, P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Report No.	: Env/506/E/M/June/19-20
4.	Date of sampling	: 27.06.2019
5.	Date of analysis	: 07.07.2019
6.	Type of sample	: Effluent Water (Grab)
7.	Location of sample	: Cooling Water Storage Tank
8.	Collection & Preservation of sample	: APHA 23 rd Ed., 1060 : 2017
9.	Sample collected in presence of	: Company Representative

PARAMETERS	TEST METHODS	RESULTS
1. pH	APHA 23 rd Ed., 4500-H+B : 2017	: 7.10
2. Total Suspended Solids (mg./l)	APHA 23 rd Ed., 2540 D : 2017	: <10.0
3. Oil and Grease (mg./l)	APHA 23 rd Ed., 5520 B/D : 2017	: <1.0
4. COD (mg./l)	APHA 23 rd Ed., 5220 B/C/D : 2017	: 25.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 rd Ed., 5210-B : 2017	: 6.0

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ANNEXURE 4



RCC ROAD INSIDE THE PLANT



RCC ROAD WORK UNDER PROGRESS

ANNEXURE 5

PLANTATION INSIDE THE PLANT BY INDIGENOUS SPECIES



PLANTATION PIC #1



PLANTATION PIC #2



PLANTATION PIC #3



PLANTATION PIC #4



PLANTATION PIC #5



PLANTATION PIC #6

ANNEXURE 6



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AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019 – 28.06.2019
4.	Report No.	: 58/EC/June/TR(A)/IV/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Near Security Gate (Western Side)
2.	Duration of Sampling	: 24 hrs. (10:00 a.m. – 10:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 33.0
2.	Average Relative Humidity (%)	: 78.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Cloudy Weather

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	: 56.25
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 85.65
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	: 8.50
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	: 30.04
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	: 0.26
6.	Concentration of Pb (µg/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) (µg/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) (µg/m ³)	IS 5182 (Part-IX) : 1974	: <10.0
10.	Ammonia (NH ₃) (µg/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 : 07.07.2019

Authorised Signatory :

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AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019 – 28.06.2019
4.	Report No.	: 58/EC/June/TR(A)/V/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive 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. (10:30 a.m. – 10:30 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 33.0
2.	Average Relative Humidity (%)	: 78.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Cloudy Weather

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	: 53.10
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 80.97
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	: 7.86
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	: 26.06

Date : 07.07.2019

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 ; 033-25792891/25497490, Fax : 033-25299141
 Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 ; 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



ENVIROCHECK

Laboratory Recognised by MOEF&CC, MBPCB & 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. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019 – 28.06.2019
4.	Report No.	: 58/EC/June/TR(A)/VI/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Near Railway Siding Area (Northern Side)
2.	Duration of Sampling	: 24 hrs. (11:00 a.m. – 11:00 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 33.0
2.	Average Relative Humidity (%)	: 78.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Cloudy Weather

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	: 54.21
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 86.51
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	: 8.50
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	: 26.84

Date : 07.07.2019

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 | 033-25792891/25497490, Fax : 033-25299141
 Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 | 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



AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Bravo Sponge Iron Pvt. Ltd.
2.	Address	: Vill. – Mahuda. P.O. – Rukni, P.S. – Para, Purulia – 723145
3.	Date of sampling	: 27.06.2019 – 28.06.2019
4.	Report No.	: 58/EC/June/TR(A)/VII/19-20
5.	Analysis completed on	: 01.07.2019
6.	Reporting Date	: 07.07.2019
7.	Particular of Plant	: Sponge, SMS and Captive Power Plant

A] GENERAL INFORMATION

1.	Location of Sampling	: Near Main Administrative Building (Eastern Side)
2.	Duration of Sampling	: 24 hrs. (11:30 a.m. – 11:30 a.m.)

B] METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 33.0
2.	Average Relative Humidity (%)	: 78.0
3.	Barometric Pressure (mm of Hg)	: 756.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Cloudy Weather

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	: 53.55
2.	Concentration of PM ₁₀ (µg/m ³)	IS 5182 (PART 23) : 2006	: 85.98
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	: 7.86
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	: 24.97

Date : 07.07.2019

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

ANNEXURE 7A



GREENVISION

(A leading environmental research laboratory)

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An ISO 9001 : 2015 & OHSAS 18001 : 2007 Certified Organisation



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 WATER ANALYSIS

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

Sample is drawn by : M/s. Greenvision
Sample identification mark : Nil
Report No. : GV/GW/19-20/080
Issued To : M/s. Bravo Sponge Iron Pvt. Ltd.
Address : Vill. : Mohuda, P.O. : Rukni, P.S. : Para,
Dist. : Purulia, 723145.
Sample Condition : In Glass Bottle & Plastic Bottle
Sample Description : Surface Water
Sampling Method : APHA 23rd EDITION, 1060
Location : Pond at Mohuda Village

Laboratory Ref. No. : SS-012-2019
Report Date : 04.11.2019
Date of Sampling : 24.10.2019
Analysis Started on : 25.10.2019
Analysis Completed on : 31.10.2019
Time of Sampling : 03:20 pm

Sl. No.	Parameters	Unit	Result	Desirable Limit As Per IS:2296:1982	Method Followed
1.	pH (at 25°C)	-	7.92	5.5 to 9.0	APHA 23 rd EDITION, 4500-H* B
2.	Total Suspended Solid (TSS)	mg/L	11.0	100.0	APHA 23 rd EDITION, 2540 D
3.	Total Dissolved Solid (TDS)	mg/L	472.0	2100.0	APHA 23 rd EDITION, 2540 C
4.	Dissolved Oxygen	mg/L	3.65	4.0	IS:3025, P-44, 1993, Reaffirmed 2014
5.	Chemical Oxygen Demand (COD)	mg/L	26.78	250.0	APHA 23 rd EDITION, 5220 B
6.	Biochemical Oxygen Demand (BOD)	mg/L	< 5.0	30.0	IS:3025, P-44, 1993, Reaffirmed 2014
7.	Oil & Grease	mg/L	BDL	10.0	APHA 23 rd EDITION, 5520 A
8.	Residual Free Chlorine	mg/L	Nil	1.0	APHA 23 rd EDITION, 4500-CI B
9.	Chloride as Cl	mg/L	20.46	1000.0	APHA 23 rd EDITION, 4500CI B
10.	Sulfate as SO ₄	mg/L	27.15	1000.0	APHA 23 rd EDITION, 4500 SO ₄ ²⁻ E
11.	Fluoride as F	mg/L	BDL	2.0	APHA 23 rd EDITION, 4500 FD
12.	Iron as Fe	mg/L	1.28	50	APHA 23 rd EDITION, 3500-Fe B

1/2

City Office : 3/45, Viveknagar, Jadavpur, Kolkata-700 065, Ph. : 9433158173

Branch Office : Durgachak, Haldia, Purba Medinipur, Ph. : 9593474712 • M. N. Sarkar Road, Mahananda Para, Siliguri-734001



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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

13.	Arsenic as As	mg/L	BDL	0.2	APHA 23 rd EDITION, 3500-As B
14.	Lead as Pb	mg/L	BDL	0.1	APHA 23 rd EDITION, 3500-Pb B
15.	Mercury as Hg	mg/L	BDL	0.01	APHA 23 rd EDITION, 3500-Hg
16.	Copper as Cu	mg/L	BDL	3.0	APHA 23 rd EDITION, 3500-Cu B
17.	Dissolved Phosphates as P	mg/L	1.06	5.0	APHA 23 rd EDITION, 4500-P D
18.	Zinc as Zn	mg/L	BDL	5.0	APHA 23 rd EDITION, 3500-Zn B
19.	Total Chromium as Cr	mg/L	BDL	2.0	APHA 23 rd EDITION, 3500-Cr C

BDL stands for Below Detectable Limit

Checked by

Payel Ghosh
Scientist

Payel Ghosh
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.

ANNEXURE 7B



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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

TEST REPORT OF WATER ANALYSIS

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

Sample is drawn by : M/s. Greenvision
Sample identification mark : Nil
Report No. : GV/GW/19-20/078
Issued To : M/s. Bravo Sponge Iron Pvt. Ltd.
Address : Vill. : Mohuda, P.O. : Rukni, P.S. : Para,
Dist. : Purulia, 723145.
Sample Condition : In Glass Bottle & Plastic Bottle
Sample Description : Ground Water
Sampling Method : APHA 23rd EDITION, 1060
Location : Hand Pump at Mohuda Village

Laboratory Ref. No. : GS-035-2019
Report Date : 04.11.2019
Date of Sampling : 24.10.2019
Analysis Started on : 25.10.2019
Analysis Completed on : 31.10.2019
Time of Sampling : 02:35 pm

Sl. No.	Parameters	Unit	Result	As Per IS:10500:2012		Method Followed
				Acceptable Limit	Permissible limit in the absence of alternate source	
1.	pH (at 25 ^o C)	-	6.92	6.5 to 8.5	No Relaxation	APHA 23 rd Edition 4500-H ⁺ B
2.	Colour	Hazen	1.0	5.0	15.0	APHA 23 rd Edition 2120 B
3.	Odour	-	Agreeable	Agreeable	Agreeable	APHA 23 rd Edition 2150 B
4.	Taste	-	Agreeable	Agreeable	Agreeable	APHA 23 rd Edition 2160 A
5.	Turbidity	N.T.U.	0.64	1	5	APHA 23 rd Edition 2130 B
6.	Conductivity	µS/cm	368.0	-	-	APHA 23 rd Edition, 2510 B
7.	Total Dissolved Solid (TDS)	mg/L	270.0	500	2000	APHA 23 rd Edition 2540 C
8.	Total Hardness as CaCO ₃	mg/L	126.0	200	600	APHA 23 rd Edition 2340 C
9.	Chloride as Cl	mg/L	11.46	250	1000	APHA 23 rd Edition 4500Cl ⁻ B
10.	Total Alkalinity as CaCO ₃	mg/L	115.0	200	600	APHA 23 rd Edition 2320 B
11.	Sulfate as SO ₄	mg/L	26.28	200	400	APHA 23 rd Edition 4500 SO ₄ ²⁻ E
12.	Nitrate as NO ₃ ⁻	mg/L	3.2	45.0	No Relaxation	APHA 23 rd Edition 4500 NO ₃ ⁻
13.	Fluoride as F	mg/L	BDL	1	1.5	APHA 23 rd Edition 4500 FD
14.	Calcium as Ca	mg/L	25.18	75	200	APHA 23 rd Edition 3500- Ca B



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

15.	Magnesium as Mg	mg/L	14.35	30	100	APHA 23 rd Edition 3500- Mg B
16.	Iron as Fe	mg/L	0.16	0.3	No Relaxation	APHA 23 rd Edition, 3500-Fe B
17.	Total Chromium as Cr	mg/L	BDL	0.05	No Relaxation	APHA 23 rd Edition, 3500-Cr C
18.	Lead as Pb	mg/L	BDL	0.01	No Relaxation	APHA 23 rd Edition, 3500-Pb B
19.	Arsenic as As	mg/L	BDL	0.01	0.05	APHA 23 rd Edition, 3500-As B
20.	Zinc as Zn	mg/L	BDL	5.0	15.0	APHA 23 rd Edition, 3500-Zn B
21.	Total Coliform / 100ml.	-	<1,<10,<100	Absent	Absent	APHA 23 rd Edition, 9221 B
22.	E. Coli / 100ml	-	<1,<10,<100	Absent	Absent	APHA 23 rd Edition, 9221 F

BDL stands for Below Detectable Limit

*<1, indicates No Colony Developed in 1 ml Sample

*<10, indicates No Colony Developed in 0.1 ml Sample

*<100, indicates No Colony Developed in 0.01 ml Sample

Checked by

ANITA SENGUPTA

Gayel Ghosh
Green Vision



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ANNEXURE 8



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

ANALYSIS REPORT

FORMAT NO. : GV/LAB/FM/335

Sample is drawn by M/s. Greenvision

Sample submitted and identified by customer as : Nil

Report No.	: GV/SS/19-20/009	Laboratory Ref. No.	: SS-008-2019(1)
Issued to	: M/s. Bravo Sponge Iron Pvt. Ltd.	Report Date	: 04.11.2019
Address	: Vill. : Mohuda, P.O. : Rukni, P.S. : Para, Dist. : Purulia, 723145.	Date of Sampling	: 24.10.2019
Sample Description	: Slag Sample	Analysis Started on	: 25.10.2019
Location	: Slag Dumping Yard	Analysis Completed on	: 30.10.2019
Sample Condition	: In Plastic Pouch	Time of Sampling	: 03:30 pm
Type of Sample	: Induction Furnace Slag		

Sl. No.	Parameters	Test Method	Unit	Results	Limit as per EPA CHAPTER-7
01	Cadmium as Cd	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	1.0
02	Mercury as Hg	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	0.2
03	Total Chromium as Cr	EPA 200.8	mg/l	0.28	5.0
04	Arsenic as As	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0
05	Barium as Ba	EPA 200.8	mg/l	4.05	100.0
06	Lead as Pb	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0
07	Selenium as Se	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	1.0
08	Silver as Ag	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0

*TCLP extraction has been done & the extract analyzed for the above parameters

Checked by

PRINCIPAL SCIENTIST

Payel Ghosh

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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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

ANALYSIS REPORT

FORMAT NO. : GV/LAB/FM/335

Sample is drawn by M/s. Greenvision

Sample submitted and identified by customer as : Nil

Report No.	: GV/SS/19-20/010	Laboratory Ref. No.	: SS-008-2019(2)
Issued to	: M/s. Bravo Sponge Iron Pvt. Ltd.	Report Date	: 04.11.2019
Address	: Vill. : Mohuda, P.O. : Rukni, P.S. : Para, Dist. : Purulia, 723145.	Date of Sampling	: 24.10.2019
Sample Description	: Ash Sample	Analysis Started on	: 25.10.2019
Location	: Ash Dumping Yard	Analysis Completed on	: 30.10.2019
Sample Condition	: In Plastic Pouch	Time of Sampling	: 03:50 pm
Type of Sample	: ESP Bottom Ash		

Sl. No.	Parameters	Test Method	Unit	Results	Limit as per EPA CHAPTER-7
01	Cadmium as Cd	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	1.0
02	Mercury as Hg	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	0.2
03	Total Chromium as Cr	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0
04	Arsenic as As	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0
05	Barium as Ba	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	100.0
06	Lead as Pb	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0
07	Selenium as Se	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	1.0
08	Silver as Ag	EPA 200.8	mg/l	BDL (DL: 0.1 µg/l)	5.0

*TCLP extraction has been done & the extract analyzed for the above parameters

Checked by
Payel Ghosh
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.

ANNEXURE 9

DRISHTI FIRE BRICKS



Tel. No. : 0341 - 5520414
Mob. No. : 094341-00786
094341-72721, 9832148158

MANUFACTURERS OF HIGH QUALITY REFRACTORIES

Inanpur, P.O. : Digha, P.S. : Neturia
Dist. : Purulia (W. B.), Pin - 723121

Ref. No...Dt./16-17/BRAYO

Date : ..01.04.16.....

AGREEMENT

This agreement hereafter referred to as ("the Agreement") made on this the first day of April 2016 by M/S. Bravo Sponge Iron Pvt. Ltd. a company incorporated under the companies Act, 1956 and having its registered office at Mahuda, P.O.-Rukni, P.S.-Para, Dt.-Purulia hereafter referred to as BSIPL (with expression shall unless excluded by or repugnant to the subject or context be deemed to mean and include its successor or successors and permitted assigns) of the ONE part

And

M/S. Drishti Fire Bricks, a partnership firm and having its factory at Inanpur, P.O.- Digha, P.S.-Neturia, Purulia-723121 (with expression shall unless excluded by or repugnant to the subject or context be deemed to mean and include its successor or successors and permitted assigns) of the OTHER Part.

Whereas, the First Party offered "Fly Ash" to M/S. Drishti Fire Bricks generated from the proposed AFBC Boiler at the captive Power Plant of BSIPL, The rate of the Fly ash will be decided fortnightly.

Whereas M/S. Drishti Fire Bricks shall arrange to place vehicle for lifting of the Fly ash on daily basis and will pay the freight to the transporter/truck driver as per lorry receipt and at actual being the charges from Unit of BSIPL, Rukni to the unit of M/S. Drishti Fire Bricks. Vehicles carrying Fly ash shall be emptied and release at earliest.

M/S. Drishti Fire Bricks will utilize the Fly ash towards manufacturing of Fly Ash Bricks at its factory at Inanpur.

Period of Agreement: This agreement shall remain in force for a period of 10(ten) years from the date of Commissioning of the proposed captive Power Plant of BSIPL.

Dispute Resolution. That in the event of any dispute of difference between the parties in respect to this Agreement shall be settled by amicable negotiation between the parties failing which the same shall be decided by Arbitration in accordance with provision of Arbitration and conciliation Act, 1966.

In witness thereof the parties here to have executed this above written on the first day of April' 2016

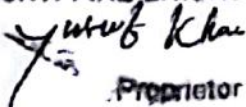
Signed and Delivered by the above

Signed and Delivered by the above

Name:
Degn: Partner
M/S. Drishti Fire Bricks

Name: Deepak Kr. Agarwal
Degn: Director
M/S. Bravo Sponge Iron Pvt. Ltd.

DRISHTI FIRE BRICKS


Proprietor





पश्चिम बंगाल पश्चिम बंगाल WEST BENGAL

E 505045

AN AGREEMENT BETWEEN PURCHASER AND SUPPLIER

This Deed of Agreement is made and entered into on 18th day of September 2018

BETWEEN

M/s. Bravo Sponge Iron Pvt. Limited having its plant operation at Vill. Mahuda, Post-Rukni, PS- Para, Dist- Purulia (WB) here in after called THE SUPPLIER as Party-1

AND

M/s. Diamond Fly ash Bricks, a non-government organisation having its Office at Purulia, Dubra, Purulia (Tentulhity Road) Pin- 723155 here in after called THE PURCHASER as party-2

Whereas M/s Diamond Fly ash Bricks has a Brick Manufacturing Project at Purulia district of West Bengal is willing to take Fly ash of power plant from party no.-1 for brick making purpose.

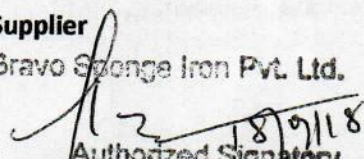
And whereas The SUPPLIER expresses their desire to enter into an agreement with the PURCHASER for utilization its fly ash in brick manufacturing.

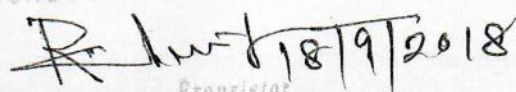
NOW THIS DEED OF AGREEMENT WITNESSES THE TERMS AND CONDITIONS AS FOLLOWS:

1. That the Agreement shall come into force immediately and shall remain valid for a period of 03 years w. e. f. The date of agreement.

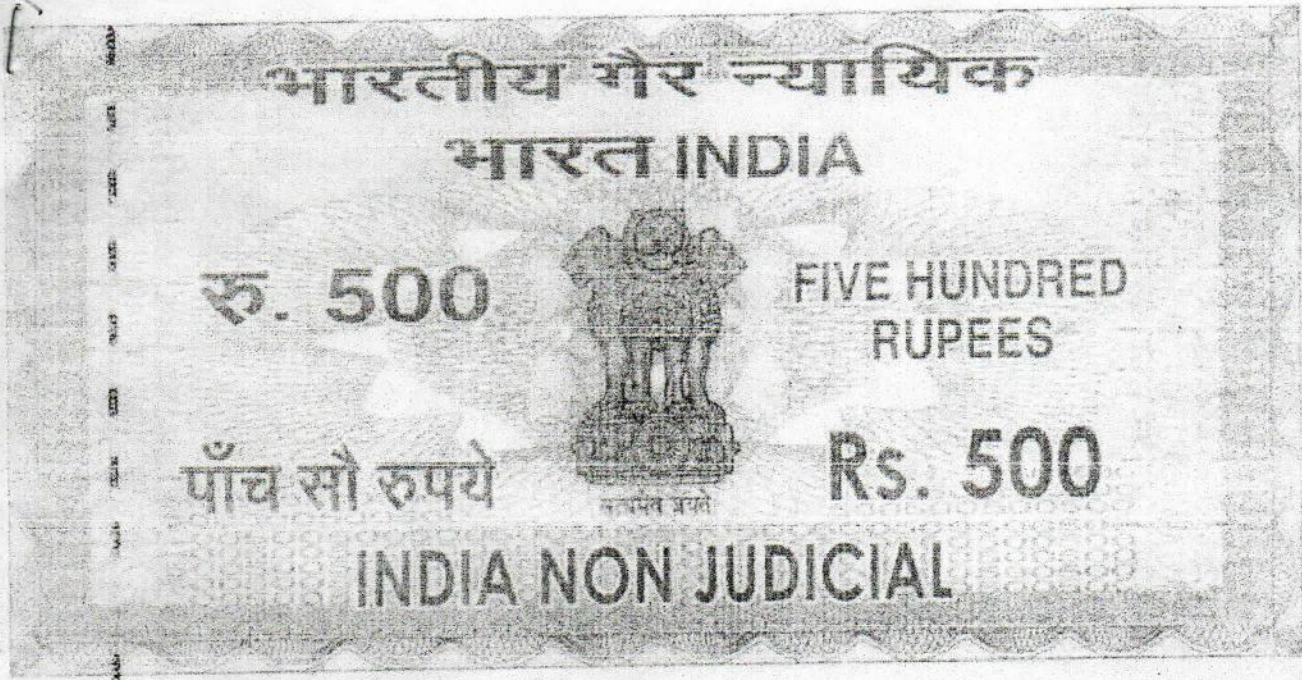
2. That this agreement bears no consideration value means it will of FREE OF COST.
3. That the SUPPLIER will provide facility to PURCHASER to take the fly ash from its premises and the purchaser will lift fly ash accordingly.
4. That the purchaser shall lift the fly ash by his own transportation facilities.
5. That the purchaser shall take all possible care to prevent spillage on road during transportation. To avoid spillage lorry will have to cover with tarpaulin.
6. That the purchaser will not unload the fly ash other than specified place at his works.
7. That the purchaser will have to make water spray on the heap of fly ash during dry weather condition to prevent any further dispersal.
8. That the purchaser shall lift a minimum of 30 MT fly ash on daily basis. This condition will not be applied during shut down of the Supplier's plant operation.
9. That the Supplier reserves the right to discontinue to provide fly ash to purchaser if at any stage it observes that the purchaser is violating the terms and conditions of this agreement.
10. That during any Force Majeure condition which is beyond the control either parties the condition of this agreement shall not be applied.
11. That if any dispute arises among parties in connection with or under this Agreement between the Parties hereto, the matter shall be referred to the Executive Director-Corporate or to an Officer designated by him and if it is remain unresolved the matter will under jurisdiction court at District Purulia (WB).

Signed on the 18TH day of SEPTEMBER 2018 for and on behalf of the Supplier and Purchaser as follows:

Supplier
Bravo Sponge Iron Pvt. Ltd.

1.
Authorized Signatory.

PURCHASER
DIAMOND FLY ASH BRICKS

2.
Proprietor





पश्चिम बंगाल पश्चिम बंगाल WEST BENGAL

E 505046

AN AGREEMENT BETWEEN PURCHASER AND SUPPLIER

This Deed of Agreement is made and entered into on 18th day of September 2018

BETWEEN

M/s. Bravo Sponge Iron Pvt. Limited having its plant operation at Vill. Mahuda, Post- Rukni, PS- Para, Dist- Purulia (WB) here in after called THE SUPPLIER as Party-1

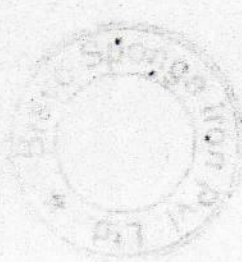
AND

M/s. B.S.C. REFRACTORIES & CERAMICS, a non-government organisation having its Office at P O- MONDALPUE, P S- JAMURIA, DIST- BURDWAN, PIN-713336 here in after called THE PURCHASER as party-2

Whereas M/s. B.S.C. REFRACTORIES & CERAMICS has a Brick Manufacturing Project at BURDWAN district of West Bengal is willing to take Fly ash of power plant from party no.-1 for brick making purpose.

And whereas The SUPPLIER expresses their desire to enter into an agreement with the PURCHASER for utilization its fly ash in brick manufacturing.

NOW THIS DEED OF AGREEMENT WITNESSES THE TERMS AND CONDITIONS AS FOLLOWS:



C.S.K. Tiwari
18/9/18

B. S. C. Refractories and Ceramics

Rajesh Kumar Singh


Partner

18/09/18

1. That the Agreement shall come into force immediately and shall remain valid for a period of 02 years w. e. f. The date of agreement.
2. That this agreement bears no consideration value means it will of FREE OF COST.
3. That the SUPPLIER will provide facility to PURCHASER to take the fly ash from its premises and the purchaser will lift fly ash accordingly.
4. That the purchaser shall lift the fly ash by his own transportation facilities.
5. That the purchaser shall take all possible care to prevent spillage on road during transportation. To avoid spillage lorry will have to cover with tarpaulin.
6. That the purchaser will not unload the fly ash other than specified place at his works.
7. That the purchaser will have to make water spray on the heap of fly ash during dry weather condition to prevent any further dispersal.
8. That the purchaser shall lift a minimum of 20 MT fly ash on daily basis. This condition will not be applied during shut down of the Supplier's plant operation.
9. That the Supplier reserves the right to discontinue to provide fly ash to purchaser if at any stage it observes that the purchaser is violating the terms and conditions of this agreement.
10. That during any Force Majeure condition which is beyond the control either parties the condition of this agreement shall not be applied.
11. That if any dispute arises among parties in connection with or under this Agreement between the Parties hereto, the matter shall be referred to the Executive Director-Corporate or to an Officer designated by him and if it is remain unresolved the matter will under jurisdiction court at District Purulia (WB).

Signed on the 18TH day of SEPTEMBER 2018 for and on behalf of the Supplier and Purchaser as follows:

Supplier



1. C. S. Chatterjee
18/9/18

PURCHASER

B. S. C. Refractories and Ceramics

Rajesh Kumar Singh 18/09/18
2. _____ Partner



ANNEXURE 10

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.)

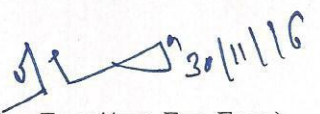
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Consent to M/S Bravo Sponge Iron Pvt Ltd.
 for its unit at Vill - Mahuda, P.O - Rukni, P.S - Para,
 Dist - Purulia, pin - 723145.

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.

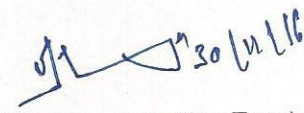
(Member Secretary/Chief Engr./Sr. Env. Engr./Env. Engr./Asst. Env. Engr.)

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. **Bravo 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

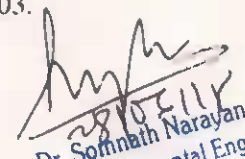
Consent to M/s. Brave Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal,

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

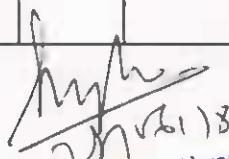
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Consent to M/s. Bravo Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145,
West Bengal.

11. The Applicant shall 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

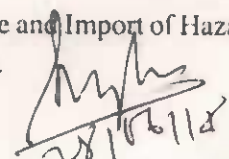
- 18. The Applicant shall at all times maintain good house-keeping, proper working order, and operate efficiently for control of pollution from all sources so as not to cause nuisance to surrounding areas/inhabitants and to achieve compliance with the terms and conditions of the consent.
- 19. The Applicant 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.

[Signature]
27/10/2018

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

(Department of Environment, Government of West Bengal)

Office of the Senior Environmental Engineer

Kankinara Circle Office

Panpur More, P.O. – Narayanpur, Kankinara, 24-Parganas (N), Pin – 743 126

Memo no. 1859 - 181/WPB/SEE (K) GEW/2004 Date: 12.03.2019

To

M/s. Bravo Sponge Iron Pvt Ltd,
"Diamond Prestige", 41A, A.J.C. Bose Road,
8th Floor, Room no 801
Kolkata- 700017.

Sub : Amendment of the "Consent to Operate" no CO107560 issued vide memo no 507-as
-co-s/10/0135 dtd 28.06.2018.

Ref : Your letter dated : 11/03/2019.

Sir,

With reference to the above this is to inform you that the "Consent to Operate" no
CO107560 issued vide Memo no.507-as-co-s/10/0135 dtd 28.06.2018. is hereby amended as follows:-

In page.no 2, of the said certificate under Condition No 1, and serial no 8 of the attached
annexure "2×12Ton/Heat induction furnace" should be read as "2×15Ton/Heat Induction furnace".

All other terms and conditions as mentioned in the "Consent to Operate" letter number
CO107560, dated : 28/06/2018, will remain unchanged.

Treat this letter as an annexure of "Consent to Operate" letter number CO107560, dated :
28/06/2018.

Yours faithfully,

Senior Environmental Engineer
Kankinara Circle Office

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. CO00000000197599**

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)

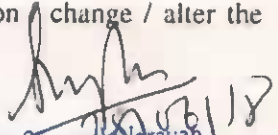
for a period from **the date of issue** to **31/12/2021**

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

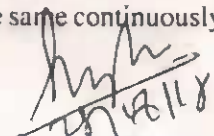
Consent to M/s. Bravo Sponge Iron Pvt. Ltd.,
 for its unit at Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin - 723145.

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.)

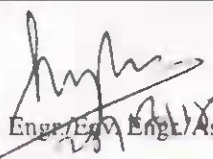
Consent to **M/s. Brave Sponge Iron Pvt. Ltd.,**
 for its unit at **Vill: Mahuda, P.O: Rukni, P.S: Para, Dist. Purulia, Pin-723145.**

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.)

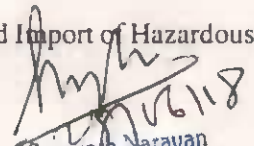

 Dr. Somnath Narayan
 Senior Environmental Engineer
 Karimnagar Circle Office
 W.B., Pollution Control Board

Continued...P/5

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.


 Dr. Somnath Narayan
 Senior Environmental Engineer
 Kankinara Circle Office
 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.)

Dr. Senmath Narayan
 Senior Environmental Engineer
 Kankana Circle Office
 W.B. Pollution Control Board

Continued.... P/6



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 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
 Senior Environmental Engineer
 Kankinara Circle Office
 W.B., Pollution Control Board

ANNEXURE 11A



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCC
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001 : 2015 & OHSAS 18001:2007



NOISE LEVEL STUDY (WORK ZONE)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019
IV. Reporting Date	: 29/06/2019
V. Report No	: 431A/EC/M/N/I/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswarup Kundu

RESULT OF NOISE LEVEL STUDY					Time :10:00 - 10:20A.M
DAY TIME					
1. Location : Coal Shed Area (RM Handling Section)					
Sl. No.	Unit	Minimum dB(A)	Maximum dB(A)	Leq dB(A)	Remarks
01.	dB(A)	67.4	70.9	68.50	East Side
02.	dB(A)	68.2	70.5	69.21	West Side
03.	dB(A)	66.3	71.8	68.26	North Side
04.	dB(A)	67.8	70.7	68.50	South Side
Average dB(A) Leq				68.61	

Reviewed By:

Dy. Quality Manager

Approved By:

Quality Manager

>End of Report<



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCB
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001 : 2015 & OHSAS 18001:2007



NOISE LEVEL STUDY (WORK ZONE)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019
IV. Reporting Date	: 29/06/2019
V. Report No	: 431A/EC/M/N/II/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswarup Kundu

RESULT OF NOISE LEVEL STUDY					Time :10:30 - 10:50A.M
DAY TIME					
2. Location : In-between Rotary Kiln - 1,2 & 3,4 (DRI)					
Sl. No.	Unit	Minimum dB(A)	Maximum dB(A)	Leq dB(A)	Remarks
01.	dB(A)	76.5	80.2	78.32	East Side
02.	dB(A)	72.4	81.3	76.50	West Side
03.	dB(A)	70.8	80.1	73.68	North Side
04.	dB(A)	69.9	72.5	71.39	South Side
Average dB(A) Leq				74.97	

Reviewed By:

Approved By:


Dy. Quality Manager


Quality Manager

>End of Report<



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCB
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001 : 2015 & OHSAS 18001:2007



NOISE LEVEL STUDY (WORK ZONE)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019
IV. Reporting Date	: 29/06/2019
V. Report No	: 431A/EC/M/N/III/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswarup Kundu

RESULT OF NOISE LEVEL STUDY					Time :11:00 - 11:20A.M
DAY TIME					
2. Location : Near Induction Furnace Area (SMS)					
Sl. No.	Unit	Minimum dB(A)	Maximum dB(A)	Leq dB(A)	Remarks
01.	dB(A)	68.5	76.4	72.50	East Side
02.	dB(A)	69.3	77.1	73.26	West Side
03.	dB(A)	69.5	78.2	75.21	North Side
04.	dB(A)	67.9	76.9	71.23	South Side
Average dB(A) Leq				73.05	

Reviewed By:

Dy. Quality Manager

Approved By:

Quality Manager

>End of Report<

ANNEXURE 11B



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCC
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007



NOISE LEVEL SYUDY (AMBIENT)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019 - 28/06/2019
IV. Reporting Date	: 07/07/2019
V. Report No	: 431B/EC/M/N/I/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswarup Kundu

RESULTS OF NOISE LEVEL STUDY

DAY TIME

1. Location of Study : Near Security Gate - Western Side

Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
9:00 - 9:20	62.5	64.8	62.50

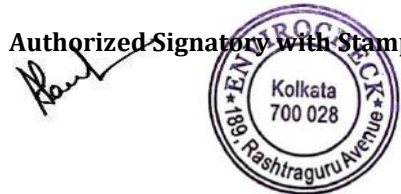
NIGHT TIME

2. Location of Study : Near Security Gate - Western Side

Time (P.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:00 - 10:20	52.6	53.8	52.89

Report Print Date: 07/07/2019

Authorized Signatory with Stamp



>End of Report<

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 { 033-25792891/25497490, Fax : 033-25299141
Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 { 033-25792889
Email : envcheck@cal2.vsnl.net.in/envirocheck50@gmail.com / Website : www.envirocheck.org
Branch Office : ▪ Siliguri ▪ Haldia ▪ Durgapur ▪ Dhanbad ▪ Gangtok ▪ Port Blair ▪ Dehradun ▪ New Delhi
Overseas : ▪ UAE ▪ Qatar ▪ Netherlands



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCC
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007



NOISE LEVEL SYUDY (AMBIENT)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019 - 28/06/2019
IV. Reporting Date	: 07/07/2019
V. Report No	: 431B/EC/M/N/II/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswarup Kundu

RESULTS OF NOISE LEVEL STUDY

DAY TIME

1. Location of Study : Mohuda Village (0.5 KM from Plant) - Southern Side

Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
9:30 - 9:50	51.6	53.8	53.20

NIGHT TIME

2. Location of Study : Mohuda Village (0.5 KM from Plant) - Southern Side

Time (P.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:30 - 10:50	41.2	44.8	43.21

Report Print Date: 07/07/2019

Authorized Signatory with Stamp



>End of Report<

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 { 033-25792891/25497490, Fax : 033-25299141
Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 { 033-25792889
Email : envcheck@cal2.vsnl.net.in/envirocheck50@gmail.com / Website : www.envirocheck.org
Branch Office : ▪ Siliguri ▪ Haldia ▪ Durgapur ▪ Dhanbad ▪ Gangtok ▪ Port Blair ▪ Dehradun ▪ New Delhi
Overseas : ▪ UAE ▪ Qatar ▪ Netherlands



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCC
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007



NOISE LEVEL SYUDY (AMBIENT)

I.	Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II.	Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III.	Date of Sampling	: 27/06/2019 - 28/06/2019
IV.	Reporting Date	: 07/07/2019
V.	Report No	: 431B/EC/M/N/III/19-20
VI.	Method No	: IS: 9989 - 1981
VII.	Time of Duration of Noise	: 20 Minutes
VIII.	Height from Ground Level	: 4 feet
IX.	Type of Industry	: Integrated Steel Plant
X.	Sample Monitoring by	: Mr. Kalyan Biswas

RESULTS OF NOISE LEVEL STUDY

DAY TIME

1.	Location of Study	: Near Railway Siding Area - Northern Side		
Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)	
10:00 - 10:20	60.1	63.5	62.90	

NIGHT TIME

2.	Location of Study	: Near Railway Siding Area - Northern Side		
Time (P.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)	
11:00 - 11:20	50.3	52.6	51.78	

Report Print Date: 07/07/2019

Authorized Signatory with Stamp



>End of Report<

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 { 033-25792891/25497490, Fax : 033-25299141
Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 { 033-25792889
Email : envcheck@cal2.vsnl.net.in/envirocheck50@gmail.com / Website : www.envirocheck.org
Branch Office : ▪ Siliguri ▪ Haldia ▪ Durgapur ▪ Dhanbad ▪ Gangtok ▪ Port Blair ▪ Dehradun ▪ New Delhi
Overseas : ▪ UAE ▪ Qatar ▪ Netherlands



ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCCB
Accredited by NABL (ISO/IEC 17025:2005)
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007



NOISE LEVEL SYUDY (AMBIENT)

I. Name of the Industry/Factory/Company	: Bravo Sponge Iron Pvt. Ltd.
II. Address	: Vill. - Mahuda, P.O - Rukni, P.S - Para, District - Purulia, Pin - 723145
III. Date of Sampling	: 27/06/2019 - 28/06/2019
IV. Reporting Date	: 07/07/2019
V. Report No	: 431B/EC/M/N/IV/19-20
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Integrated Steel Plant
X. Sample Monitoring by	: Mr. Biswajit Ghosh

RESULTS OF NOISE LEVEL STUDY

DAY TIME

1. Location of Study : Near Main Administrative Building - Eastern Side

Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:30 - 10:50	62.8	66.2	64.20

NIGHT TIME

2. Location of Study : Near Main Administrative Building - Eastern Side

Time (P.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
11:30 - 11:50	56.2	62.5	59.80

Report Print Date: 07/07/2019

Authorized Signatory with Stamp



>End of Report<

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 { 033-25792891/25497490, Fax : 033-25299141
Laboratory : 189,190&192 Rastraguru Avenue, Kolkata - 700028 { 033-25792889
Email : envcheck@cal2.vsnl.net.in/envirocheck50@gmail.com / Website : www.envirocheck.org
Branch Office : ▪ Siliguri ▪ Haldia ▪ Durgapur ▪ Dhanbad ▪ Gangtok ▪ Port Blair ▪ Dehradun ▪ New Delhi
Overseas : ▪ UAE ▪ Qatar ▪ Netherlands

ANNEXURE 12



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13/09/2019

Name BISWARUP MAJI

Father/Husband

HAREKRISHNA MAJI

Department DRT (Mech)

Age 35

Sex M.

Blood Group AB+VE

Relevant Personal History Not known

Relevant Family History Not known

Preexisting Disease if any NO

Physical Examination:

General Health Good

Anemia NO

Jaundice NO

Pulse 99/M

Blood Pressure 135/93

Abdomen Soft

Chest Normal

CNS ✓

Eye/Ear B/G R/L → B/G | N/R M/G . Colmrvistal - 1WML

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
Reg. No. 65750



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13.09.19

Name PANKAJ PASWAN ✓ Father/Husband MAHESHA PASWAN.

Department Operator (A) Age 32 Sex M. Blood Group AB-NEGATIVE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 88/M

Blood Pressure 122/80

Abdomen Soft

Chest Normal

CNS ✓ _____

Eye/Ear B/G vision - 6/6, Colour vision - Normal.

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
MBBS, DCH
Reg. No. 17511/WB/M



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13.09.19

Name SUKANTA MITRA Father/Husband ACHIL MITRA

Department DRT (CRO) Age 25 - Sex M. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any No

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 76/M'

Blood Pressure 121/87

Abdomen Soft

Chest Normal

CNS _____

Eye/Ear Bilateral Dist - 20/20 - 20/20. Colour vision - JWL

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
MBBS, MD
Reg. No. 8575
Checked by
Medical Officer



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. 65750 (M&MC) Date: 13.02.19

Name JHANTU ROY Father/Husband Bhadrakanta Roy

Department SMS (CCM) Age 25 Sex M Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health Good

Anemia NO

Jaundice NO

Pulse 81/M

Blood Pressure 130/90

Abdomen Soft

Chest Normal

CNS

Eye/Ear B/E DIST r/l -> G/L, M & N 6

Investigation (if any)

Further Advice

DR. S. C. Mondal
Checked by
Medical Officer
700 No - 65750



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13.09.19.

Name SWADAN MAJI Father/Husband Ashoke Maji

Department DRI(Mech) Age 39. Sex M. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 78/M

Blood Pressure 135/86

Abdomen soft

Chest Normal

CNS _____

Eye/Ear BIB DIST r-n → 6/6 Mr. add → +1.00 DSph. (r → WML)

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
MBBS, M.D. (Gen. Med.)
Reg. No. 66150
Medical Officer



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13/09/19

Name UTTAM BOURI ✓ Father/Husband BARJULAL BOURI

Department DRT Helper Age 50 Sex M. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 70/M

Blood Pressure 105/71

Abdomen soft

Chest Normal

CNS _____

✓ Eye/Ear BLE vision = 6/6. N/A - N 6 (BLE)

Investigation (if any) _____

Further Advice _____

Checked by
Medical Officer
Reg. No. -65750 (WB)



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. 65750 (WBMG) Date: 13.09.19.

Name Santosh Bouni Father/Husband Lofar Bouni

Department SMS (Mech) Age 28. Sex M. Blood Group B+VE

Relevant Personal History Not Known

Relevant Family History Not Known

Prelisting Disease if any No

Physical Examination:

General Health Good

Anemia No

Jaundice No

Pulse 72

Blood Pressure 118/81

Abdomen Soft

Chest Normal

CNS

Eye/Ear R/E → 6/6 L/E → 6/6 Nv → N6 Cv → WAZ

Investigation (if any)

Further Advice

Checked by
Medical Officer
DR. S. Mandal
MBBS, D.C.M.C.
Reg. No. 65750



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13/09/2019

Name RAYI BHUVINVA ✓ Father/Husband LAXMAN BHUVINVA

Department CPP (Fitter) Age 28 Sex m. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 84/M

Blood Pressure 117/75

Abdomen Soft

Chest Normal

CNS _____

✓ Eye/Ear B/E -0.5 D.S.P.H. 6/6. N.V. → M6, C.V. WML.

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
Reg. No. - 85750



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. 65750 (W.M.C) Date: 13.09.19
Name Niromalendy Mahato Father/Husband Late Ajodhyanath Mahato
Department DRI (Mechanical) Age 38+ Sex M. Blood Group AB+VE
Relevant Personal History Not Known
Relevant Family History Not Known
Prelisting Disease if any NO

Physical Examination:

General Health Good
Anemia NO
Jaundice NO
Pulse 72/M
Blood Pressure 125/78
Abdomen Soft
Chest Normal
CNS _____
Eye/Ear B/E Plano (6/6) N.V. → Madel +1.00 Dsph |
Investigation (if any) _____
Further Advice _____

DR. S. C. Mondal
Checked by
Medical Officer
Reg. No. 65750 (W.M.C)



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13/09/2019

Name SUNIL BOURI Father/Husband BISWU BOURI

Department DRI (Mech) Age 48. Sex M. Blood Group AB+VE

Relevant Personal History NOT KNOWN

Relevant Family History NOT KNOWN

Prelisting Disease if any NO

Physical Examination:

General Health Good

Anemia NO

Jaundice NO

Pulse 90/M

Blood Pressure 136/87

Abdomen Soft

Chest Normal

CNS _____

Eye/Ear B/G +1.00 Dsph. G/B. My add +2.00 Dsph

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
Reg. No. 0511111111



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13.09.19

Name MADHUSUDAN CHAKRABORTY Father/Husband LT. BANCHANAM CHAKRABORTY

Department DRI (mech) Age 42 - Sex m. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 85/M

Blood Pressure 129/89

Abdomen soft

Chest Normal

CNS _____

✓ Eye/Ear BLE plano. 6/6, Mv. add +1.25 DSph

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
MB.B.S. D.P.H.
RBB: No. 12345 M.C.
Checked by
Medical Officer



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13/09/2019

Name BITTOY KR MURMU ✓ Father/Husband GOPAL MURMU.

Department DRT (Helpers) Age 32 Sex M. Blood Group AB+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 114/M

Blood Pressure $\frac{127}{92}$

Abdomen Soft

Chest Normal

CNS _____

Eye/Ear B/L vision. 6/6. colour vision → Defective

Investigation (if any) _____

Further Advice _____

Checked by
Medical Officer
DR. S. Mondal
Reg. No. -85750 (W.B.M.C.)



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13/09/2019

Name KISHAN SWARNAPATI ✓ Father/Husband RAJENDR SWARNAKAR

Department Admin Age 25 Sex M Blood Group B+VE

Relevant Personal History Not Known

Relevant Family History Not Known

Prelisting Disease if any NO

Physical Examination:

General Health Good

Anemia NO

Jaundice NO

Pulse 90/M

Blood Pressure 130/91

Abdomen Soft

Chest Normal

CNS _____

✓ Eye/Ear B1 R2 VM → '616', MV - ML

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
Reg. No. 65750



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 12.09.19.

Name Biswasit Ghoshal Father/Husband Austash Ghosal

Department Admin Age 19 Sex m. Blood Group A+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health Good

Anemia NO

Jaundice NO

Pulse 76/M

Blood Pressure 115/91

Abdomen Soft

Chest Normal

CNS _____

Eye/Ear B/E Vh -> 6/6. Nr. -> N.L. cr -> WML.

Investigation (if any) _____

Further Advice _____

DR. S. C. Mondal
Checked by
Medical Officer
Reg. No. 65/50



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13.07.19.

Name Bappa Dey Father/Husband Narayan ch Dey

Department Drivers A/M Age 25- Sex M. Blood Group B+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 84/M

Blood Pressure 129/83

Abdomen Soft

Chest Normal

CNS _____

Eye/Ear B/E Dist vn -> B/E. Colour vision -> WMZ

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
MBBS, DPH
Checked by
Reg. No. 25750 M.D.M.C.
Medical Officer



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13/09/2019
Name RAJENDRA MAJI ✓ Father/Husband LT GURRAM MAJI
Department DRT (Mech) Age 38 Sex M. Blood Group O+VE
Relevant Personal History Not known
Relevant Family History Not known
Prelisting Disease if any NO

Physical Examination:

General Health good
Anemia NO
Jaundice NO
Pulse 101/M
Blood Pressure 106/72
Abdomen Soft
Chest Normal
CNS _____
Eye/Ear B12 plane MR add -> NB.
Investigation (if any) _____
Further Advice _____

DR. S. S. Mondal
Checked by
Medical Officer
Reg. No. - 85750 (W.B.M.A.)



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13.09.19.

Name Pranitha Majee Father/Husband Monmol Majee

Department app Pitter Age 27 Sex M Blood Group A+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 77/M

Blood Pressure 107/75

Abdomen soft

Chest Normal

CNS _____

Eye/Ear B/E, G/G, NV → MB

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
MBBS
Medical Officer
Reg. No. - 44



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____ Date: 13.09.19.

Name BIKASH BOORI Father/Husband Arjun Boro

Department L/depot (H/M) Age 24 Sex m Blood Group B+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 99/M

Blood Pressure 143/99

Abdomen Soft

Chest Normal

CNS _____

✓ Eye/Ear B/E vision -> 6/6, colour vision -> NML (B/E)

Investigation (if any) _____

Further Advice _____

DR. S.C. Mondal
Checked by
Medical Officer
M.B.S. (P) A.M.C.
Reg. No. - 65151



BRAVO SPONGE IRON PVT. LIMITED

Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

HEALTH CARD OF EMPLOYEE

Registration No. _____

Date: 13.09.19.

Name RAJU SHAAH Father/Husband Ramdev Sahu

Department CPP (Eng) Age 24. Sex m. Blood Group O+VE

Relevant Personal History Not known

Relevant Family History Not known

Prelisting Disease if any NO

Physical Examination:

General Health good

Anemia NO

Jaundice NO

Pulse 95/M

Blood Pressure 146/85

Abdomen soft

Chest Normal

CNS _____

✓ Eye/Ear B/E VISION -> 6/6. Cr - 2W42. NV - N6

Investigation (if any) _____

Further Advice _____

DR. S. S. Mondal
Checked by
Medical Officer
Reg. No. - 85780 (W.B.C.)

ANNEXURE 13

F. No. J-11011/758/2009-IA.II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi - 110003
E-mail: sharath.kr@gov.in
Tel: 011-24695319

Dated: 18th April 2017

To

**M/s. Bravo Sponge Iron Pvt. Ltd.,
Mahuda, P.S- Rukni,
DIST-Purulia, West Bengal
E-mail: bravosponge15@gmail.com
Fax: 91-33-66255252**

Subject: Expansion of Sponge Iron Plant from 195 TPD to 395 TPD and installation of Billet Manufacturing Unit (600 TPD), Rolling Unit 600 TPD along with Captive Power Plant (18 MW) located at Village Mahuda, PO-Rukni, Dist: Purulia, West Bengal by M/s. Bravo Sponge Iron Pvt. Ltd. –Environmental Clearance regarding.

Sir,

This has reference to your online application No. IA/WB/IND/32308/2015 dated 30th December 2016 along with copies of EIA/EMP report seeking environmental clearance under the provisions of the EIA Notification, 2006 for the project mentioned above. The ToRs to the project were prescribed by the Ministry vide letter of even number dated 03.12.2015. The proposed project activity is listed at Sl.No. 3(a) in Metallurgical industries under Category 'A' of the Schedule of EIA Notification 2006.

2.0 The proposal for expansion of sponge iron plant was initially received in the Ministry for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its meeting and prescribed ToRs to the project for undertaking detailed EIA study for the purpose of obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project dated 3.12.2015. Based on the TORs prescribed to the project, the project proponent applied for environmental clearance to the Ministry online on 30.12.2016 along with EIA/MP report.

3.0 The project of M/s Bravo Sponge Iron Pvt. Ltd located in village Mahuda, Tehsil-Raghunathpur, District-Purulia is for setting up expansion of its existing project from 0.062 million ton per annum sponge Iron to production of 0.19 million tons of TMT rods per annum (million TPA). The entire land of 16.30 ha has been acquired for the project is. No forest land is involved. No river passes through the project area. No water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

4.0 The topography of the area is gentle sloping with isolated hillocks highest contour 205 m reported to lie between 23° 32' 54.05"N to 23° 33' 00.02"N latitude and 86° 32'55.42"E to 86° 32'57.44"E longitude in survey of India topo sheet no F/45C/10 at an elevation of 194m AMSL. The ground water table reported to range between 2.5 and 5.5m below the land surface during post-monsoon season and 4.5 and 11.5m below the land surface during the pre-monsoon season. No national park, no wild life sanctuary, no biosphere reserve, no tiger reserve nor elephant reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for schedule-I fauna.

5.0 The targeted production capacity of TMT rods is 0.19 million TPA. The Iron ore for the plant would be procured from Kalinga Mining Corporation (mine owner & exporter)Joruri, Keonjhar, Odisha and Non-coking coal to be imported from Saraogi PTE Ltd., Singapore. The ore transportation will be done through rail, ship and road fully covered.

6.0 The water requirement of the project is estimated as 1,18,105 m³/day out of which makeup water requirement will be 1119.04 m³/day which will be obtained from Mautore Dam near Cheliyama through DVC. Treated water to recycle will be 1,17,082.88m³/day, waste water generated will be 47.768m³/day. The power requirement of the project is estimated as 30 MW, out of which 18 MW is own generation and 12 MW will be obtained from DVC.

7.0 Ambient air quality monitoring has been carried out at 8 locations during December 2015 to February 2016. And data submitted indicated PM10 (44.3 µg/m³ to 83.5 µg/m³), PM2.5 (26.6 µg/m³ to 42.7 µg/m³), SO₂ (11.6 to 13.2 µg/m³), NO_x (11.4 to 19.3 µg/m³). It has been reported that there is no settlement in the core zone and no R&R is involved. SO₂ content of flue gas coming out of AFBC power plant is estimated to be 10.82gm/s which is to be reduced to minimum by lime scrubbing of flue gas with lime. Lime will form Gypsum sludge when combined SO₂. Gypsum shall be filtered, dried and sold as by-product.

8.0 It has been reported that a total char of 18,900 TPA from DRI kilns will be used to generate power through FBC, 52,920 TPA fly ash will be supplied to brick manufacturers for which agreement has been made and part will be supplied to cement manufacturers. 23,320 TPA. If slag being equivalent to river sand can be used in construction work or filled up low land. Land acquired at Alkusha and Dhulabad can be used to dump waste if so required. 3.4 ha of land at Alkusha & 0.28 ha of land at Dhulabad under Para PS of Purulia Dist has been muted in the name of Bhalotia Metcoke Pvt Ltd under Mutation case no 50/2011 and 38/2011 by office of the block land and land reforms officer, Para, Purulia dated 08.02.2012 and an agreement has been made b/w M/s Bhalotia Metcoke Pvt Ltd and M/s Bravo Sponge Iron Pvt Ltd for BSIPL to dump solid waste generated from their Integrated Steel Plant at Alkusha and Dhulabad.

9.0 The public hearing of the project was held on 4th November 2016. The issues raised in Public hearing inter-alia include disposal of char from sponge iron plant, to develop infrastructure of local school, measures to be taken to see that local agricultural land are not affected due to the expansion project, training to local youth and subsequently priority to local employment, extension of health care facility to all possible villages and more over ensuring safety of work men of project.

10.0 The capital cost of the project is Rs 156.34 Crores and capital cost for environmental protection measures is Rs 625 Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs 64 Lakhs. The proponent has mentioned that there is no court case to the project or related activity. Employment potential for the proposed expansion is 350.

11.0 The company proposes to invest on the Enterprise Social Commitment (ESC) activities. For this purpose, the company has allocated Rs. 400.87 Lakhs. This fund shall be utilized over a period of 5 years. Company has identified following areas, to be considered for implementing the ESC activities in the context of the local scenario of the area:

S. No	ESC Activities	Budget allocation in Lakh	Period of completion after CTE
1	Building a community centre having indoor game facilities, library, furniture and utensils for social functions which will also act as emergency shelter for needy people	170.50	2 yrs
2	Installing solar lighting system by the side of road passing through slum and connecting project site to state high way.	35.27	1 yr
3	Supply of modular latrines to poor needy persons as a major step towards sanitation	15.10	1 yr
4	Vocational training program for local youth in various trades so as to make them fit for employment and there by improve economy.	100.00	1 yr & 4 months
5	Organizing sports meet and cultural activities in the brand name of TMT rods	35.00	6 months
6	Development of social forestry by supply of seedlings free of cost to villagers and beautification of locality by creating parks	45.00	3 yrs
	Total	400.87	

12.0 The proposal was considered during the 15th meeting of Expert Appraisal Committee [EAC] (Industry-I) held on 2nd – 3rd February 2017 and recommended the project for Environmental Clearance and stipulated Specific Conditions along with other environmental conditions while considering for accord of environmental clearance.

13.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to grant environmental clearance to the above mentioned proposal for expansion of Sponge Iron Plant from 195 TPD to 395 TPD and installation of Billet Manufacturing Unit (600 TPD), Rolling Unit 600 TPD along with Captive Power Plant (18 MW) located at Village Mahuda, Po-Rukni, West Bengal by **M/s. Bravo Sponge Iron Pvt. Ltd.** under the provision of EIA Notification dated 14th September, 2006, as amended, subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITION:

- 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.

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- ii. In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Dust extraction and suppression system shall be provided at all the transfer points, coal handling plant etc. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.
 - 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.
 - iv. No effluent shall be discharged outside the plant premises and 'zero' discharge shall be adopted.
 - v. 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.
 - vi. 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.
 - vii. 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 raw coal from the linked coalmines shall be created within the Unit.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.

- 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.
- xv. 10-15 m 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.
- xvi. All the commitments made to the public during Public Hearing/public consultation meeting shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- 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.
- 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 bring 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) System of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- 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.
- xx. The project proponent shall provide for LED lights in their offices and residential 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.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the West Bengal Pollution Control Board and the State Government.
- ii. 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).
- iii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM₁₀, PM_{2.5}, SO₂ and NO_x are anticipated in consultation with the SPCB. Data on ambient

air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneshwar and the SPCB/CPCB once in six months.

- 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.
- 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. 75 dB(A) during day time and 70 dB(A) during night time.
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- 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.
- 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 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 Bhubaneshwar. The funds so provided shall not be diverted for any other purpose.
- 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.
- 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 Bhubaneshwar. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (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.
- xii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by 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 Bhubaneshwar/ CPCB / SPCB shall monitor the stipulated conditions.

- xiii. 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 Bhubaneshwar by e-mail.
- xiv. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bhubaneshwar.
- 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.

14.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

15.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

16.0 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.


(Sharath Kumar Pallerla)
Scientist 'F'

Copy to:-

1. The Secretary, Department of Environment, Government of West Bengal.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi, 110032.
3. The Chairman, West Bengal Pollution Control Board, Paribesh Bhavan, 10A, Block-L.A., Sector III, Salt Lake City, Kolkata - 700 098
4. The Additional Principal Chief Conservator of Forests (C) Ministry of Environment Forest and Climate Change Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar – 751023 Email: roez[dot]bsr-mef[at]nic[dot]in
5. District Collector, Purulia District, West Bengal
6. Guard File / Record File/Monitoring file.


(Sharath Kumar Pallerla)
Scientist 'F'

ANNEXURE 14

Ref. : BSIPL/E8/2018-19

Date : 4th November, 2019

The Sr. Environmental Engineer

West Bengal Pollution Control Board
Asansol Regional Office
ADDA Commercial Market (2nd Floor),
Oppo. Asansol Fire Station,
GT Road, Asansol-713301
Dist-Paschim Burdwan (WB)

Sub: Environment Statement (FY: 2018-2019) of M/s Bravo Sponge Iron Pvt. Limited, Vill-Mahuda, PO-Rukni, Dist-Purulia (WB)

Dear Sir,

Please find enclosed herewith the Environment statement for financial year ending the 31st March, 2019 of M/s Bravo Sponge Iron Pvt, Limited, Vill-Mahuda, PO-Rukni, Dist-Purulia (WB) for your kind consideration please.

Kindly acknowledge our submission

Thanking you,

Yours faithfully,

for **Bravo Sponge Iron Pvt. Limited**

(Authorized Signatory)

Encl: As above



Copy to: The Dy. Director General of Forests (Central) Eastern Regional Office, Ministry of Environment Forests & Climate Change, A/3, Chandrashekharpur, Bhubaneswar – 751023 (Odisha)

07/11/19
Received
(Content Not Verified)
West Bengal Pollution Control Board
Asansol Regional Office
2nd Floor ADDA Commercial Market Complex
Opposite Fire Station, Asansol - 713301

Ref. : BSIPL/ES/2018-19

Date : 4th November, 2019

The Sr. Environmental Engineer

West Bengal Pollution Control Board
Asansol Regional Office
ADDA Commercial Market (2nd Floor),
Oppo. Asansol Fire Station,
GT Road, Asansol-713301
Dist-Paschim Burdwan (WB)

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Kindly acknowledge our submission

Thanking you,

Yours faithfully,

for **Bravo Sponge Iron Pvt. Limited**

(Authorized Signatory)

Encl: As above



Copy to: The Dy. Director General of Forests (Central) Eastern Regional Office, Ministry of Environment Forests & Climate Change, A/3, Chandrashekharpur, Bhubaneswar - 751023 (Odisha)

