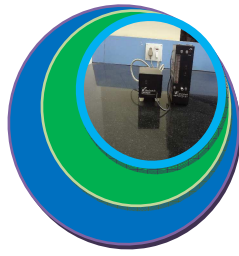


# BMM Ispat Ltd.,



**Danapur Village, Hospet Taluk,  
Bellary District, PIN-583222, Karnataka**



## **ENVIRONMENT MONITORING REPORT**

**Stage 2 Units**

*For*

**DECEMBER-2015**

**Prepared By**



**GLOBAL ENVIRONMENT & MINING SERVICES**

**NABL Accredited Laboratory**

(Consulting Engineers, Mine Designers, Geologists & Surveyors)

3<sup>rd</sup> main road, Basaveswara badavane

**HOSPET - 583201, Dist., Bellary (Karnataka)**

Tel : 08394 - 651111,229433  
Mobile : +919448479433/9449830533  
e-mail : [gems\\_hpt@yahoo.com](mailto:gems_hpt@yahoo.com)  
Website : [globalmining.in](http://globalmining.in)



## **PREFACE**

The Industries should monitor environmental parameters as per the frequency and locations given in the CFE/CFO. And the same should be submitted on every month to the respective pollution control board.

As part of the conditions and inherent concern on health of the employees and surroundings *M/s. BMM Ispat Ltd.*, as appointed *M/s. Global Environment & Mining Services, HOSPET*, to carry out the environmental pollution monitoring on Fugitive monitoring within the plant, Stack monitoring and Noise pollution and submit the same to the Pollution Control Board.

Accordingly, *M/s. Global Environment & Mining Services, HOSPET*, carried out the pollution monitoring as per the standard sampling methods prescribed by CPCB, for Fugitive monitoring within the plant, Stack monitoring for all chimneys, and Noise monitoring as per the CFO. These monitoring has been carried out in a frequency as mentioned in the CFO and the same report is being submitted to the Board.

We sincerely thank to officials of *M/s. BMM Ispat Ltd.*, for their valuable co-ordination & support during the sampling and reporting.

**for GLOBAL Environment & Mining Services**

**Place: Hospet**  
Date: 06.01.2016

**S. Kameswara Rao**  
**(Managing partner)**

## **1.0 EXECUTIVE SUMMARY**

### **1.1 INTRODUCTION**

The journey of the BMM Group is a reflection of the path tread by every entrepreneur who believes in the human potential and one's own ability to bring about a life affirming change that transcends time. BMM Group was born out of this committed belief of Late ShriUdaichandSinghi.

Entrenched in the Indian ethos, with an astute understanding of market needs, values and sensibilities *Mr. Dinesh Kumar Singhi* inherited the legacy from his father and has built the BMM Group on sound fundamentals since 1998. He steered the company towards growth by being the first mining company to establish a power generation plant for captive use, and creating a steel plant from the captive ore mine. Over the last 12 years, BMM has been able to add value to every relationship under his able and dynamic leadership.

Today, BMM is a 2000 CroresCompany due to its focus on market orientation and optimal usage of technology to achieve process efficiency and value addition. BMM has always believed in the principle of sharing and hence continues to transfer this benefit derived from sustained growth to its employees, partners and associates. The unique value proposition that defines the very fabric of the BMM culture is the firm's belief in unleashing this 'potential in tones' in terms of its human capital, continuous growth and consistent benefits to its stakeholders.

The human potential at BMM is reflected in the depth of domain expertise across diverse sectors and dynamism of youth at various levels in the Organization. Business operations lead by professionals with decades of market understanding and a dynamic team enables BMM to deliver superior product quality. It is this human potential that keeps BMM attuned to scaling new heights and meeting customer expectations. While consistently adding value to its partners, BMM is sensitive to its responsibility towards the environment by implementing best practices in its Business Operations and contribution to society through various social Endeavours'.

BMM has a commitment of being a good Corporate Citizen and is committed to achieving business goals through ethical means. BMM hence has been able to have deeper relevance to society by creating value that is inclusive and truly benefits all.



## 1.2 PROMOTERS OF THE PROJECT

BMM Group, one of the leading Steel, Cement & Mining companies in India that has achieved the present level under the leadership and guidance of Sri Dinesh Kumar Singh, the Founder & Director of the group, is promoting the project. His vision is to globalize the company business and do value addition by operating responsibly and in a sustainable manner in exploring, exploiting, excavating and processing minerals followed by setting up steel plant facilities.

**BMM** is a step towards forward integration to set up new Rolling Mill. The corporate office of the project is located as follows:

### **BMM ISPAT LIMITED**

(Registered Office & Works)

#114, Danapura

**Hospet - 583 222**

Bellary Dist., Karnataka

Phone +91 83942 44681/82/83/9972309417

Fax +91 080-30723604.

### **1.3 BRIEF PROFILE OF THE GROUP MINES.**

#### **TMT Bars:**

Steel for TMT bars is fully kilned in a furnace. The molten steel is void of slag with the inclusion of argon gas. The chemistry and temperature is homogenized to ensure uniform composition. The liquid steel is then tapped into the concast. (Continuous of Casting Machine).

#### **Billet Quality for TMT Steel:**

- No impurities Viz. Slag and refractory inclusions.
- No piping and blowholes.
- Superior Surface finishes without defects.
- Consistent properties throughout its length.

#### **Steel:**

The steel plant setup in 2006 as per BMM'S aspirations now produces 75,000 TMT bars annually. BMM ISPAT LTD manufactures high strength TMT steel bars for concrete reinforcement, which are internationally competitive and highly ductile for safety in structures.

#### **Properties of BMM Steel:**

- Steel is Corrosion Resistance, owing to its water quenching methods.
- With 0.25%, carbon BMM TMT has an excellent welding ability.
- Stringent Control over chemical composition prevents brittleness.
- TMT bonds best with concrete to form strong reinforcement.

#### **BMM Cement**

BMM Cements Limited an integral part of the BMM Group has successfully commissioned its new cement plant with an annual capacity of one Million Tons per annum.

### **1.4 Site Location**

BMM ISPAT LIMITED is located at Danapur about 15 Kms away from Hospet in Karnataka. The plant site can be connected by national highway, viz. NH-13. The plant is 1 km away from the NH-13 near Danapura village. The nearest railway station is

Hospet;Bangalore is at a distance of 300 kms. Seaport is Belikere and Karwar, the nearest Airport is in the private sector belonging to JSW, a Jindal Group company at Thoranagallu (Vidyanagar).

M/s. BMM ISPAT Ltd., Has accorded Environmental Clearance for 2.0 MTPA Integrated Steel Plant, with the following facilities.

S.N.	Items	Capacity
1	Iron ore beneficiation plant	3.40 MTPA
2	Palletizing Plant	1.20 MTPA
3	DRI Plant	0.70 MTPA
4	Coke Oven	0.80 MTPA
5	Sinter Plant	2.50 MTPA
6	Blast furnace	1.70 MTPA
7	EAF & BOF Steel making shop	2.30 MTPA
8	Continuous casting machines Slab Caster Billet Caster	1.10 MTPA 1.10 MTPA
9	Rolling mills : Hot strip mill Structurals/wire rods	1.00 MTPA 1.00 MTPA
10	Oxygen Plant	2x500 TPD
11	Calcining	1,080 TPD
12	Cement Plant	1.40 MTPA
13	Power Plant	230 MW

Out of the above units presently **4 x 500 TPD Sponge Iron Plants** and **1X70 MW Thermal Power Plants** have been commissioned on August 2011 and Beneficiation plant-2, Pellet Plant-2 are commissioned on March 2012. 2X70 MW Thermal based power plants have commissioned on Jan 2013, EAF, Steel Making Shop, CCM, Rolling Mill, Oxygen plants are commissioned on August 2015, other plants are under construction. Hence environmental monitoring has being carried out for 4 x 500 TPD sponge iron plants, 1X70 MW Thermal Power Plant, 1.3MTPA Beneficiation, 1.2MTPA Pellet Plant, 2X70MW Power plant, EAF, SMS, CCM, and RML every Month.

**1.5** The report includes environmental monitoring data collected at above site for the month of **DECEMBER-2015**. The Parameters monitored are:

- ❖ Fugitive Dust Level
- ❖ Stack Emission

**Important Note:** *Ambient Air Quality & Water Quality data are common for both Stage-I & Stage-II. Hence, Please refers Stage-I report for the same.*

## 1.6 Study:

The data collection programme is given below:

### 1.7 Fugitive Emission Monitoring

Ambient Air Quality was monitored 40 samples were collected from the analyzed for SPM analyzed by gravimetric method. Work Zone Air quality was monitored at all Plant area, and material handling area air quality status given in *Annexure – 1/A (1<sup>st</sup> Fort night) & Annexure – 1/B (2<sup>nd</sup> Fort night)* .

### 1.8 Stack Monitoring

Vayubhodhan Stack sampler VSS1 stack monitoring was used for drawing the flue gas. Sulphur dioxide and oxides of Nitrogen in the flue gas were sampled by bubbling flue gas solution respectively and the analysis of the pollutants were done as per the Indian Standard procedures prescribed by CPCB/BIS. Stack Emission level was monitored as per the statutory requirement on twice in a month, and the results given in *Annexure – 2/A (1<sup>st</sup> Fort night) & Annexure – 2/B (2<sup>nd</sup> Fort night)*

### 1.9 Stack Emissions Monitoring Methodology

#### 1.10 Sampling Procedure

##### Pre Sampling Activities

Weigh the properly conditioned thimble/filter and place it into the clean, air tight Container. Designate appropriate label or ID No. to each thimble/filter container. Particulate matter emission of “Stack Monitoring – Material and Methodology for iskinetic Sampling.

Field activity starts with the collection of detailed information from the industry about the products, raw materials, fuels, and stack dimensions.

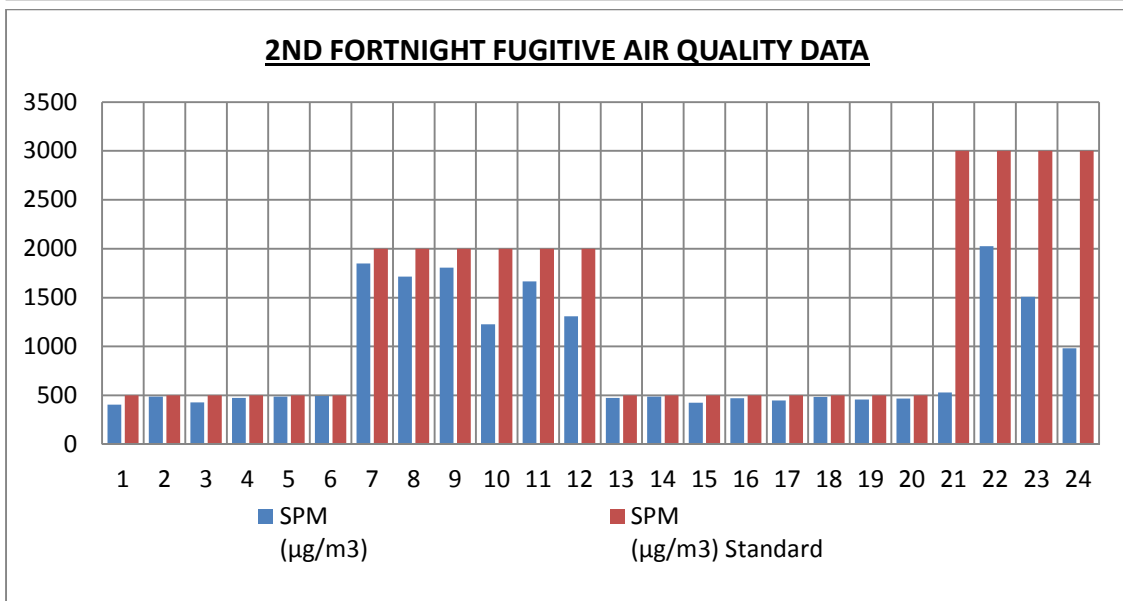
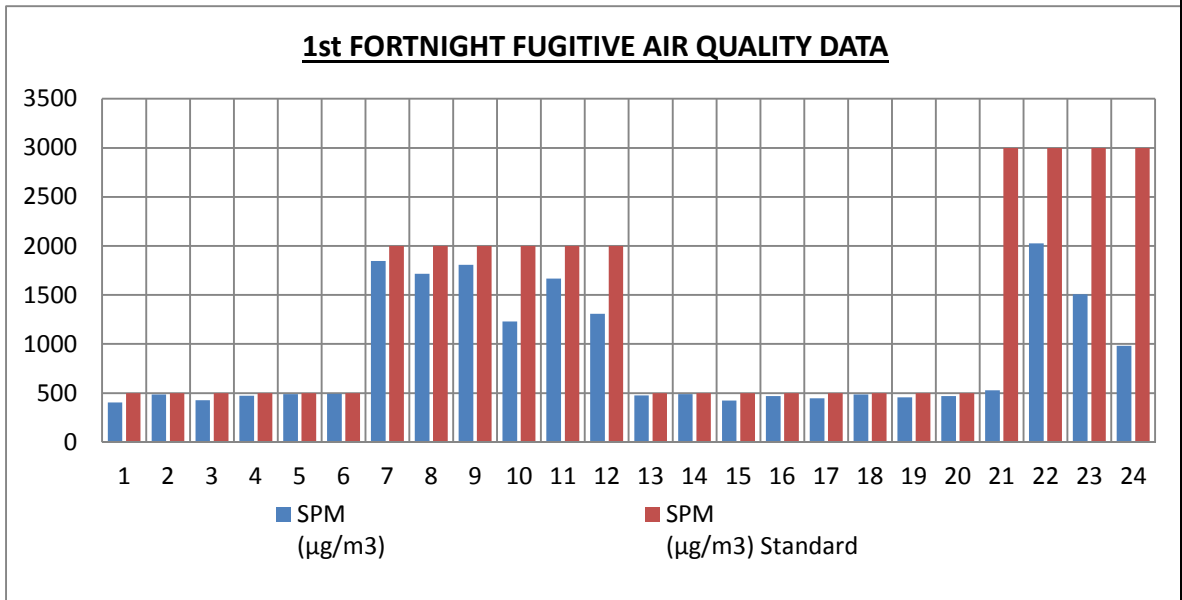
#### 1.11 Traverse Point Calculation

Calculate the traverse point and accordingly mark the distance from tip of the Nozzle, on Pitot tube and probe. Do not forget to add the collar length of port to the calculated traverses. For detailed calculation of “Stack Monitoring– Material and Methodology for is kinetic sampling.

**1.12 Determination of Dust Concentration**

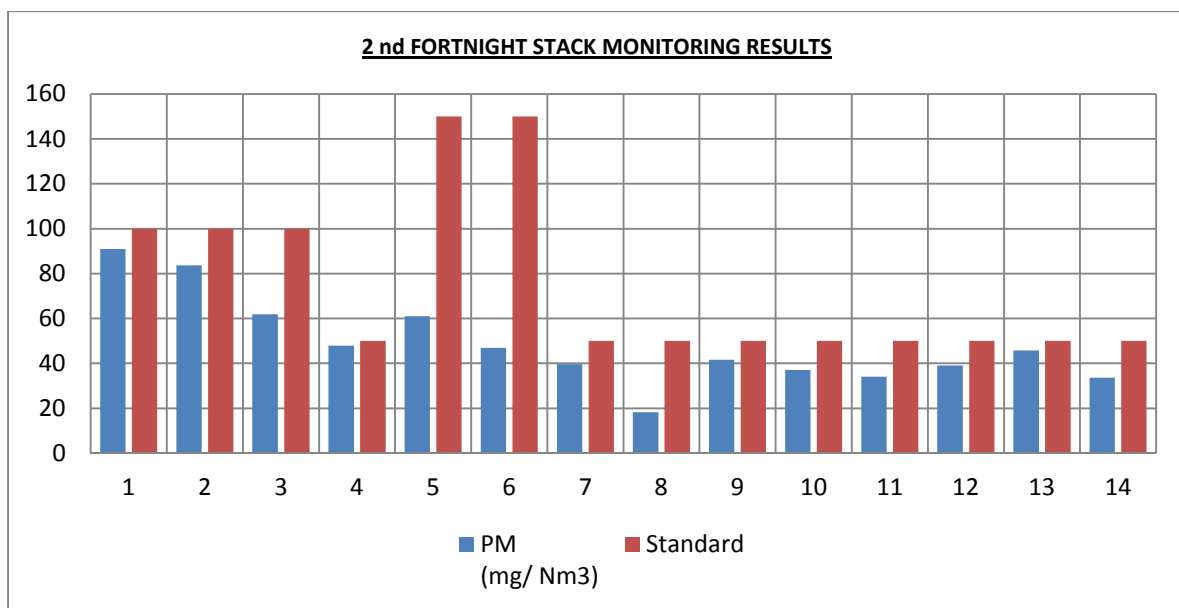
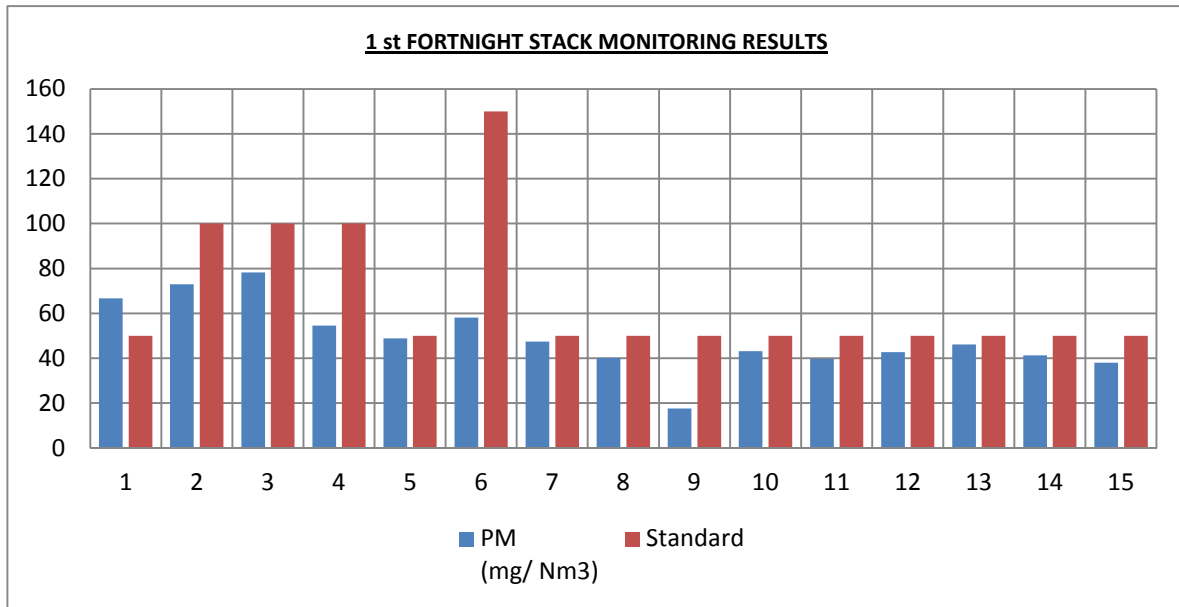
Determine the mass of dust collected in the thimble by difference i.e. weighing the thimble before and after the run. Dry the thimble in an oven for about 2 hours at 120° C prior to sampling. After sampling, cool, dry and again weigh the thimble along with dust maintaining the same condition as prior to sampling

**1.13** Fortnightly fugitive air quality was monitored all plant area SPM value minimum **404.0 µg/m<sup>3</sup>**, maximum value **2461.3 µg/m<sup>3</sup>**,and average value **961.25 µg/m<sup>3</sup>**. The Fugitive Monitoring results of 1st Fortnight & 2<sup>nd</sup> Fortnight is mentioned in graph.





**1.14** Stack emission level was monitored all chimneys’ PM values (mg/Nm<sup>3</sup>) 1<sup>st</sup> and 2<sup>nd</sup> Fort Night Minimum Value **17.6 mg/Nm<sup>3</sup>**. Maximum Value **91.0 mg/Nm<sup>3</sup>** & Average Value **47.70 mg/Nm<sup>3</sup>**. The Stack Monitoring results of 1<sup>st</sup> Fortnight & 2<sup>nd</sup> Fortnight is mentioned in graph.



**1.15 Conclusion**

All the monitored Environmental parameters were found to be well within the statutory norms– and the same are enclosed as follows.



**Annexure-1/A (1 st Fort Night)**

**FORTNIGHTLY FUGITIVE AIR QUALITY DATA MONITORING DECEMBER-2015**

1. Name of the Industry : BMM Ispat Ltd., Danapur, Hospet Taluk, Bellary District.
2. Sample collected by : GLOBAL Environment & Mining Services, Hospet.
3. Particulars of sample collected : RDS Sampler (AAS 217 BL)
4. Report to sent : **06.01.2016**
5. Method adopted : IS 5182 (Part 23 ) : 2006

Sl.NO.	Location / Plant	Date Of Monitoring	Date Of Sample Receipt	SPM ( $\mu\text{g}/\text{m}^3$ )	Standard
<b>I. Beneficiation Plant-II</b>					
1.	Ball Mill Area	04.12.2015	05.12.2015	483.4	<b>500</b>
2.	Iron Ore Hopper (Near monsoon shed)	04.12.2015	05.12.2015	496.8	<b>500</b>
3.	Concentrate Thickener	04.12.2015	05.12.2015	462.9	<b>500</b>
<b>II. Pellet Plant-II</b>					
4.	PR-6	05.12.2015	06.12.2015	467.7	<b>500</b>
5.	Annual Cooler	05.12.2015	06.12.2015	482.2	<b>500</b>
6.	CGB Building	05.12.2015	06.12.2015	491.7	<b>500</b>
<b>III. Sponge Iron Division -2 (Kiln 1 &amp; 2)</b>					
7.	Control room	07.12.2015	08.12.2015	1965.3	<b>2000</b>
8.	Near Weigh bridge (dispatch)	07.12.2015	08.12.2015	1331.5	<b>2000</b>
9.	Pellet Storage bin	07.12.2015	08.12.2015	1833.2	<b>2000</b>
<b>IV. Sponge Iron Division -2 (Kiln 3 &amp; 4)</b>					
10.	Near Control room	08.12.2015	09.12.2015	1951.7	<b>2000</b>
11.	Near Coal crusher	08.12.2015	09.12.2015	1405.1	<b>2000</b>
12.	Near Product bin	08.12.2015	09.12.2015	1836.1	<b>2000</b>
<b>V. Wagon Tipper/RMHS</b>					
13.	Near Tipping point	09.12.2015	10.12.2015	480.6	<b>500</b>
14.	Monsoon Shed	09.12.2015	10.12.2015	476.9	<b>500</b>
15.	MCC room (2 <sup>nd</sup> Gate)	09.12.2015	10.12.2015	449.7	<b>500</b>
<b>VI. Power Plant-70 MW</b>					
16.	70MW-DM Plant (Near R.O. Plant)	10.12.2015	11.12.2015	438.9	<b>500</b>
17.	Coal Screen (near gate weigh bridge)	11.12.2015	12.12.2015	455.0	<b>500</b>
18.	CFBC boiler	10.12.2015	11.12.2015	481.2	<b>500</b>
<b>VII. 2X70MW Power Plant</b>					
19.	Near Boiler	11.11.2015	12.12.2015	492.6	<b>500</b>
20.	Near Coal storage Shed	11.11.2015	12.12.2015	452.8	<b>500</b>
<b>VIII . SMS Area</b>					
21	Stock House/Vibro feeders	12.12.2015	13.12.2015	1378.3	<b>3000</b>
22	Laddle Tapping	12.12.2015	13.12.2015	2191.6	<b>3000</b>
23	Slag Pouring Area	12.12.2015	13.12.2015	2093.5	<b>3000</b>
<b>IX. BAR MILL</b>					
24	Near Reheating Furnace	10.12.2015	11.12.2015	2461.3	<b>3000</b>

**Note:** SPM - Suspended Particulate matter ( $\mu\text{g}/\text{m}^3$ ) **INFERENCE:** The Measured Values are within the limits

**Analyzed By**  
Environmental Engineer  
(G.Aarathi)

**Authorised signatory**  
**Technical Manager**  
(K.Ramakrishna Reddy )

**Note:**

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3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not used any advertising media without special permission in writing.
4. Total liability of our laboratory is limited amount. Any dispute arising out of this report is subject to Hospet jurisdiction only.

**Annexure-1/B (2<sup>nd</sup> Fort Night)****FORTNIGHTLY FUGITIVE AIR QUALITY DATA MONITORING DECEMBER-2015**

1. Name of the Industry : BMM Ispat Ltd., Danapur, Hospet Taluk, Bellary District  
 2. Sample collected by : GLOBAL Environment & Mining Services  
 3. Particulars of sample collected : RDS Sampler (AAS 217 BL)  
 4. Report to be sent : **06.01.2016**  
 5. Method adopted : IS 5182 (Part 23) : 2006

Sl.NO.	Location / Plant	Date Of Monitoring	Date Of Sample Receipt	SPM ( $\mu\text{g}/\text{m}^3$ )	Standard
<b>I. Beneficiation Plant-II</b>					
1.	Ball Mill Area	18.12.2015	19.12.2015	404.0	500
2.	Iron Ore Hopper (Near monsoon shed)	18.12.2015	19.12.2015	486.4	500
3.	Concentrate Thickener	18.12.2015	19.12.2015	428.0	500
<b>II. Pellet Plant-II</b>					
4.	PR-6	19.12.2015	20.12.2015	472.9	500
5.	Annual Cooler	19.12.2015	20.12.2015	487.8	500
6.	CG Building	19.12.2015	20.12.2015	492.4	500
<b>III. Sponge Iron Division -2 (Kiln 1 &amp; 2)</b>					
7.	Control room	21.12.2015	22.12.2015	1847.6	2000
8.	Near Weigh bridge (dispatch)	21.12.2015	22.12.2015	1716.0	2000
9.	Pellet Storage bin	21.12.2015	22.12.2015	1645.9	2000
<b>IV. Sponge Iron Division -2 (Kiln 3 &amp; 4)</b>					
10.	Near Control room	22.12.2015	23.12.2015	1228.1	2000
11.	Near Coal crusher	22.12.2015	23.12.2015	1666.4	2000
12.	Near Product bin	22.12.2015	23.12.2015	1308.4	2000
<b>V. Wagon Tipper/RMHS</b>					
13.	Near Tipping point	23.12.2015	24.12.2015	475.4	500
14.	Monsoon Shed	23.12.2015	24.12.2015	488.2	500
15.	MCC room (2 <sup>nd</sup> Gate)	23.12.2015	24.12.2015	424.6	500
<b>VI. Power Plant-70 MW</b>					
16.	70MW-DM Plant (Near R.O. Plant)	24.12.2015	25.12.2015	470.4	500
17.	Coal Screen (near gate weigh bridge)	25.12.2015	26.12.2015	446.2	500
18.	CFBC boiler	24.12.2015	25.12.2015	484.6	500
<b>VII. 2X70MW Power Plant</b>					
19.	Near Boiler	25.12.2015	26.12.2015	457.5	500
20.	Near Coal storage Shed	25.12.2015	26.12.2015	468.6	500
<b>VIII . SMS Area</b>					
21	Stock House/Vibrofeeders	26.12.2015	27.12.2015	529.0	3000
22	Ladle Tapping	26.12.2015	27.12.2015	2026	3000
23	Slag Pouring Area	26.12.2015	27.12.2015	1508.3	3000
<b>IX.BAR MILL</b>					
24	Near Reheating Furnace	24.12.2015	25.12.2015	982.2	3000

**Note:** SPM - Suspended Particulate matter ( $\mu\text{g}/\text{m}^3$ ) **INFERENCE:** The Measured Values are within the limits.

**Analyzed By**  
 Environmental Engineer  
 G.Aarathi

**Authorised signatory**  
**Technical Manager**  
 K.Ramakrishna Reddy

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**STACK MONITORING RESULTS**

**Annexure - 2/A**

1. Name of the Industry : BMM Ispat Ltd., Danapur, Hospet Taluk, Bellary district.  
 2. Sample collected by : GLOBAL Environment & Mining Services  
 3. Particulars of sample collected : Vayubodhan Stack sampler VSS 1 **Month: DECEMBER - 2015 (1<sup>st</sup> Fort Night)**

Si. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta °C	TS °C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm <sup>3</sup> )
									PM	SO <sub>2</sub> mg/Nm <sup>3</sup>	NO <sub>2</sub> mg/ Nm <sup>3</sup>	
1	Pellet Plant-2 ESP	04.12.2015	Coal	29	150	5.97	100	7.00	66.7	58.16	3.54	50
2	2X500TPD Sponge iron kiln1&2 ESP	05.12.2015	Coal	30	152	5.84	70	3.00	72.9	60.24	10.14	100
3	2X500TPD Sponge iron kiln3&4 ESP	07.12.2015	Coal	30	148	6.00	70	3.00	78.3	54.66	8.22	100
4	1 X 70MW-CFBC Boiler ESP	08.12.2015	Coal	29	156	6.03	70	3.00	41.6	38.23	10.48	50
5	2X70MW -CFBC Boiler ESP	09.12.2015	Coal	30	163	6.26	110	8.00	48.8	60.12	8.14	50
6	SMS		Coal	-	-	-	86	2.40	Shutdown			150
7	Barmill	10.12.2015	--	30	265	8.39	87	3.00	58.2	-	-	150
<b>Chimneys attached to Bag Filter (De dusting Units)</b>												
<b>Beneficiation Plant-2</b>												
1	Iron Ore Cone Crusher	NOT IN OPERATION										50
2	Iron Ore Screening	NOT IN OPERATION										50
<b>Pellet Plant-2</b>												
3	Additive grinding mill	SHUTDOWN										50
4	Mixer building	SHUTDOWN										50
5	Pellet discharge point	SHUTDOWN										50
<b>2 X 500 TPD Sponge Iron Kiln 1 &amp; 2</b>												
6	Cooler Discharge -1	05.12.2015	---		---		30	1.20	47.4	----	----	50
7	Cooler Discharge -2	05.12.2015	---		---		30	1.20	40.2	----	----	50
8	Coal stock house	05.12.2015	---		---		30	1.20	17.6	----	----	50
9	Production Separation bin-1	07.12.2015	---		---		30	1.20	43.2	----	----	50
10	Production Separation bin-2	07.12.2015	---		---		30	1.20	39.8	----	----	50
11	Transfer House	07.12.2015	---		---		30	1.20	42.7	----	----	50

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2014)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005 (reaffirmed 2005)

**Note :**  
 SO<sub>2</sub> - Sulphur dioxide  
 NO<sub>2</sub> - Nitrogen dioxide  
 PM - Particulate matter

**Analyzed By**  
 Environmental Engineer.  
 G.Aarathi

**Authorised signatory**  
 Technical Manager  
 K.Ramakrishna Reddy

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**STACK MONITORING RESULTS**

**Annexure - 2/A**

1. Name of the Industry : BMM Ispat Ltd., Danapur , Hospet Taluk, Bellary district.
2. Sample collected by : GLOBAL Environment & Mining Services
3. Particulars of sample collected : Vayubodhan Stack sampler VSS 1
4. Month : December - 2015 (**1<sup>st</sup> Fort Night**)

Sl. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta °C	TS °C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm <sup>3</sup> )
									PM	SO <sub>2</sub> mg/Nm <sup>3</sup>	NO <sub>2</sub> mg/ Nm <sup>3</sup>	
<b>Chimneys attached to Bag Filter (De dusting Units)</b>												
<b>2X500 TPD Sponge Iron Kiln 3&amp;4</b>												
12	Coal Primary Screen		---	---			30	1.20	Not in Operation			50
13	Coal Stock House -1 & coal stock house-2		---	---			30	1.20	Not in Operation			50
14	Cooler Discharge -1	08.12.2015	---	---			30	1.20	46.2	----	----	50
15	Cooler Discharge -2 & PSB transfer tower	08.12.2015	---	---			30	1.20	41.3	----	----	50
16	Production Bunker & Intermediate bin		---	---			30	1.20	Not in Operation			50
17	Production Separation bin	08.12.2015	---	---			30	1.20	38.1	----	---	50
18	Pellet Stock house		---	---			30	1.20	Not in Operation			50
19	Dolochar Stock House 1 & 2		---	---			30	1.20	Not in Operation			50
20	CPU Building		---	---			30	1.20	Not in Operation			50

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2014)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005 (reaffirmed 2005)

**Note :**  
 SO<sub>2</sub> - Sulphur dioxide  
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 PM - Particulate matter

**Analyzed By**  
 Environmental Engineer.  
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**STACK MONITORING RESULTS**

Annexure - 2/B

1. Name of the Industry : BMM Ispat Ltd., Danapur, Hospet Taluk, Bellary district.  
 2. Sample collected by : GLOBAL Environment & Mining Services  
 3. Particulars of sample collected : Vayubodhan Stack sampler VSS 1 Month : December - 2015 (2nd Fort Night)

Si. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta °C	TS °C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm <sup>3</sup> )	
									PM mg/Nm <sup>3</sup>	SO <sub>2</sub> mg/Nm <sup>3</sup>	NO <sub>2</sub> mg/Nm <sup>3</sup>		
1	Pellet Plant-2 ESP	26.12.2015	Coal	Shutdown									50
2	2X500TPD Sponge iron kiln1&2 ESP	18.12.2015	Coal	30	152	5.99	70	3.00	91.0	56.72	8.24	100	
3	2X500TPD Sponge iron kiln3&4 ESP	19.12.2015	Coal	31	149	6.07	70	3.00	83.7	59.44	10.18	100	
4	1 X 70MW-CFBC Boiler ESP	21.12.2015	Coal	31	163	6.11	70	3.00	41.0	36.23	7.65	50	
5	2X70MW -CFBC Boiler ESP	22.12.2015	Coal	30	167	6.35	110	8.00	47.9	56.88	10.24	50	
6	SMS	25.12.2015	Coal	Shutdown									150
7	Barmill	24.12.2015	-	29	259	7.72	87	3.00	61.0	-	-	150	
<b>Chimneys attached to Bag Filter (De dusting Units)</b>													
<b>Beneficiation Plant-2</b>													
1	Iron Ore Cone Crusher	Not in Operation										50	
2	Iron Ore Screening	Not in Operation										50	
<b>Pellet Plant-2</b>													
3	Additive grinding mill	Not in Operation										50	
4	Mixer building	Not in Operation										50	
5	Pellet discharge point	Not in Operation										50	
<b>2 X 500 TPD Sponge Iron Kiln 1 &amp; 2</b>													
6	Cooler Discharge -1	23.12.2015	---	---	---	---	30	1.20	46.9	----	----	50	
7	Cooler Discharge -2	23.12.2015	---	---	---	---	30	1.20	39.7	----	----	50	
8	Coal stock house	23.12.2015	---	---	---	---	30	1.20	18.3	----	----	50	
9	Production Separation bin-1	18.12.2015	---	---	---	---	30	1.20	41.7	----	----	50	
10	Production Separation bin-2	18.12.2015	---	---	---	---	30	1.20	37.1	----	----	50	
11	Transfer House	18.12.2015	---	---	---	---	30	1.20	34.1	----	----	50	

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2014)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005 (reaffirmed 2005)

**Note :**  
 SO<sub>2</sub> - Sulphur dioxide  
 NO<sub>2</sub> - Nitrogen dioxide  
 PM - Particulate matter

**Analyzed By**  
 Environmental Engineer  
 G.Aarathi

**Authorised signatory**  
 Technical Manager  
 K.Ramakrishna Reddy

**Note:**

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**STACK MONITORING RESULTS**

*Annexure - 2/B*

1. Name of the Industry : BMM Ispat Ltd., Danapur , Hospet Taluk, Bellary district.
2. Sample collected by : GLOBAL Environment & Mining Services
3. Particulars of sample collected : Vayubodhan Stack sampler VSS 1
4. Month : December - 2015 (2<sup>nd</sup> Fort Night)

Sl. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta °C	TS °C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm3)
									PM mg/Nm <sup>3</sup>	SO <sub>2</sub> mg/Nm <sup>3</sup>	NO <sub>2</sub> mg/Nm <sup>3</sup>	
<b>Chimneys attached to Bag Filter (De dusting Units)</b>												
<b>2X500 TPD Sponge Iron Kiln 3&amp;4</b>												
12	Coal Primary Screen		---	---			30	1.20	Not in Operation			50
13	Coal Stock House -1 & coal stock house-2		---	---			30	1.20	Not in Operation			50
14	Cooler Discharge -1	25.12.2015	---	---			30	1.20	39.1	----	----	50
15	Cooler Discharge -2 & PSB transfer tower	25.12.2015	---	---			30	1.20	45.7	----	----	50
16	Production Bunker & Intermediate bin		---	---			30	1.20	Not in Operation			50
17	Production Separation bin	25.12.2015	---	---			30	1.20	33.7	----	---	50
18	Pellet Stock house		---	---			30	1.20	Not in Operation			50
19	Dolochar Stock House 1 & 2		---	---			30	1.20	Not in Operation			50
20	CPU Building		---	---			30	1.20	Not in Operation			50

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2014)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005 (reaffirmed 2005)

**Note:**

- SO<sub>2</sub> - Sulphur dioxide
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