



# BMM Ispat Ltd.,

Danapura Village, Hospet Taluk,  
Bellary District, PIN – 583222, Karnataka.

## ENVIRONMENT MONITORING REPORT

Stage – I units

For

Nov 2015

Prepared by:



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## **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. Premier Analytical Laboratories, HOSPET**, to carry out the environmental pollution monitoring on Air, water and Noise pollution and submit the same to the Pollution control board.*

*Accordingly M/s. Premier Analytical Laboratories, HOSPET, carried out the pollution monitoring as per the standard sampling methods prescribed by CPCB, for Ambient air quality in nearby villages, Fugitive monitoring within the plant, Stack monitoring for all chimneys, Noise and water quality 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.*

*Place: Hospet  
Date: 04.12.2015*

*Chief Chemist*

## **1.0 INTRODUCTION**

*M/s. BMM Ispat Ltd, (BMMIL) is the upcoming integrated steel manufacturing plant, with its state of art in advanced technology in iron and steel making. It is committed produce a quality products, in environmental friendly technology. Adopting sufficient air pollution control equipments, recycling and reusing all the water with ‘Zero’ discharge facility, Generating valuable electric power with waste heat recovery boilers (WHRB) and resource optimizing and minimizing the energy needs through re-utilizing char for CFBC boilers.*

*M/s. BMM ISPAT Ltd., Presently operating the following units (units coming under 2.0 MTPA integrated steel plants are reported separately);*

<i>Sl. No.</i>	<i>Units</i>	<i>Capacity</i>
<i>1</i>	<i>Beneficiation Plant</i>	<i>1.3 MTPA</i>
<i>2</i>	<i>Pellet Plant</i>	<i>1.2 MTPA</i>
<i>3</i>	<i>Sponge Iron Division -1</i>	<i>2 x 100 TPD</i>
<i>4</i>	<i>Induction furnace (billets)</i>	<i>9000 tons/month</i>
<i>5</i>	<i>Rolling Mill (TMT rods)</i>	<i>9000 tons/month</i>
<i>6</i>	<i>Captive Power Plant</i>	<i>25 MW</i>

*The report includes environmental monitoring data collected at above site and its surrounding areas, for the month of **November 2015**. The Parameters monitored are:*

- ❖ Ambient air quality*
- ❖ Fugitive dust level*
- ❖ Stack emission*
- ❖ Ambient Noise Level*
- ❖ Water quality*

## 1.0 Study

The data collection programme is given below :

### 1.1 Ambient Air Quality Monitoring

Ambient air quality was monitored at 6 locations viz. Danapur Village (AAQ-1), Gundatanda (AAQ-2), Hanumahalli Village, (AAQ-3), Marimanahalli Village (AAQ-4), Gunda Village (AAQ-5), Galamanagudi Village (AAQ-6), for 2 days in a week for 4 weeks in the month of **November 2015** using Fine particulate Sampler SLE-FPS 105 & Respirable dust sampler - Envirotech APM 460 BL.

A total of **51** samples were collected from the above Six locations and analysed for PM 10, PM 2.5, SO<sub>2</sub> & NO<sub>x</sub>. PM 10 and PM 2.5 were analysed by gravimetric method while SO<sub>2</sub> and NO<sub>x</sub> were analysed by Modified West-Gaeke Spectrophotometric Method and Jacob and Hocheiser Modified Method respectively and the results given Annexure – 1.

**2.1** Work zone air quality was monitored at all Plant area, and work area air quality status given in Annexure – 2.

### 2.2 Stack Monitoring

Vayubodhan Stack sampler VSS 1 stack monitoring kit was used for drawing the flue gas. Sulphur dioxide and oxides of nitrogen in the flue gas were sampled by bubbling flue gas in 3% H<sub>2</sub>O<sub>2</sub> and 0.1N NaOH 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 – 3.

### 2.3 Ambient Noise Level Measurement

Noise level was recorded at 30 locations each in Ambient and work zone area using Sound Level Meter (Model LUTRON / SL - 4010) and the results given in Annexure – 4.

## **2.4 Water Quality Monitoring**

Ground and Surface water samples were collected once in a season and analysed as per IS 10,500 / IS 2296 standards. Raw, Process and cooling Pond recirculation samples were analysed and the results given in Annexure – 5.

## **3.0 Monitored Parameters Status**

### **3.1 Ambient Air Quality**

The mean values of PM 10 were ranging from a minimum of **50**  $\mu\text{g}/\text{m}^3$  and a maximum of **53**  $\mu\text{g}/\text{m}^3$ . PM 2.5 values were ranging from a minimum of **23**  $\mu\text{g}/\text{m}^3$  and a maximum of **26**  $\mu\text{g}/\text{m}^3$ . Maximum  $\text{SO}_2$  and  $\text{NO}_x$  values were found to be the mean values of  $\text{SO}_2$  ranging from a minimum of **19.18**  $\mu\text{g}/\text{m}^3$  and maximum of **25.31**  $\mu\text{g}/\text{m}^3$ . The  $\text{NO}_x$  values were ranging from minimum of **12.76**  $\mu\text{g}/\text{m}^3$  and maximum of **14.14**  $\mu\text{g}/\text{m}^3$ . The values were found to be well within the CPCB limit for Residential & Rural area. The monthly ambient air quality status is given in Annexure – 1.

**3.2** Work zone air quality was Monitored at all plant area, average values of SPM, is from **579**  $\mu\text{g}/\text{m}^3$ , to **587**  $\mu\text{g}/\text{m}^3$  .

#### **3.2.1 Stack Monitoring**

Stack emission level was monitored as per the statutory requirement on twice in month.

### **3.4 Ambient & Work Zone Noise Level**

The Day & Night time noise level values were ranging between **68** dB (A) and **53** dB (A). The noise level status is given in Annexure – 4.

### **3.5 Water Quality**

Ground and Surface water samples were collected and analyzed as per IS 10500 standards.

Waste water from Neutralization pit (DM reject) and Guard pond is reused as a cooling water in sponge iron plants, hence there is no waste water generation.

### **3.6 Conclusion**

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

Annexure 1

Month : Nov 2015

**ANALYSIS REPORT OF AMBIENT AIR QUALITY**

- 1 **Name of the Industry** : BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680
- 2 **Sample collected by** : Premier Analytical Laboratories, Hospet.
- 3 **Particulars of sample collected** : Fine particulate sampler .
- 4 **Report to be sent** : 02.12.2015
- 5 **Method adopted**
- i. PM 10 : IS 5182 (Part 23) : 2006
- ii. PM2.5 : **Manufacturer user manual**
- iii. SO<sub>2</sub> : IS 5182 (Part 2) : 2001
- iv. NO<sub>2</sub> : IS 5182 (Part 6) : 2006

Location : Danapur village

SI No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	2.11.15	3.11.15	24 hrs	55	24	21.11	14.48
2	4.11.15	5.11.15	24 hrs	52	23	20.95	15.63
3	9.11.15	10.11.15	24 hrs	50	22	22.40	12.79
4	11.11.15	12.11.15	24 hrs	54	24	23.47	12.56
5	16.11.15	17.11.15	24 hrs	48	21	18.88	13.24
6	18.11.15	19.11.15	24 hrs	55	24	20.54	15.59
7	23.11.15	24.11.15	24 hrs	52	23	22.27	13.12
8	25.11.15	26.11.15	24 hrs	49	21	25.22	14.46
9	30.11.15	1.12.15	24 hrs	53	23	21.95	13.93
<b>Standards</b>				100	60	80	80

Location : Gundatanda

SI No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	2.11.15	3.11.15	24 hrs	52	26	20.46	11.53
2	4.11.15	5.11.15	24 hrs	54	26	17.58	13.31
3	9.11.15	10.11.15	24 hrs	48	24	21.39	12.70
4	11.11.15	12.11.15	24 hrs	56	28	18.18	13.11
5	16.11.15	17.11.15	24 hrs	49	24	22.43	15.96
6	18.11.15	19.11.15	24 hrs	54	27	18.18	14.10
7	23.11.15	24.11.15	24 hrs	54	27	21.98	12.39
8	25.11.15	26.11.15	24 hrs	52	26	16.01	13.06
9	30.11.15	1.12.15	24 hrs	55	27	19.36	11.37
<b>Standards</b>				100	60	80	80

Note : PM10 --- Particulate matter (size less than 10 $\mu\text{m}$ ), PM2.5 -- Particulate matter(size less than 10  $\mu\text{m}$ ),  
SO<sub>2</sub> --- Sulphur dioxide, NO<sub>2</sub> --- Nitrogen dixide

**INFERENCE : The measured values for all the parameters are within the Standards.**

Month : Nov 2015

**ANALYSIS REPORT OF AMBIENT AIR QUALITY**

Location : Hanumanahalli village

Sl No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	2.11.15	3.11.15	24 hrs	56	27	18.11	11.35
2	4.11.15	5.11.15	24 hrs	57	28	20.35	13.57
3	9.11.15	10.11.15	24 hrs	52	25	19.11	10.65
4	11.11.15	12.11.15	24 hrs	55	27	15.45	11.74
5	16.11.15	17.11.15	24 hrs	49	24	19.66	12.40
6	18.11.15	19.11.15	24 hrs	56	27	21.90	15.59
7	23.11.15	24.11.15	24 hrs	47	23	18.11	11.43
8	25.11.15	26.11.15	24 hrs	53	26	19.72	13.76
9	30.11.15	1.12.15	24 hrs	55	26	20.20	14.35
<b>Standards</b>				100	60	80	80

Location : Mariammanahalli village

Sl No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	3.11.15	4.11.15	24 hrs	56	28	27.32	15.19
2	5.11.15	6.11.15	24 hrs	51	25	26.92	14.18
3	10.11.15	11.11.15	24 hrs	54	27	23.54	13.58
4	12.11.15	13.11.15	24 hrs	53	27	22.10	12.39
5	17.11.15	18.11.15	24 hrs	50	25	24.82	14.84
6	19.11.15	20.11.15	24 hrs	50	24	25.87	13.18
7	24.11.15	25.11.15	24 hrs	52	25	26.09	11.99
8	26.11.15	27.11.15	24 hrs	43	21	25.78	13.98
<b>Standards</b>				100	60	80	80

Note : PM<sub>10</sub> --- Particulate matter (size less than 10 $\mu\text{m}$ ), PM<sub>2.5</sub> -- Particulate matter(size less than 10  $\mu\text{m}$ ), SO<sub>2</sub> --- Sulphur dioxide, NO<sub>2</sub> --- Nitrogen dioxide

**INFERENCE : The measured values for all the parameters are within the Standards.**



Month : Nov 2015

**ANALYSIS REPORT OF AMBIENT AIR QUALITY**

Location : Gunda village

Sl No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	3.11.15	4.11.15	24 hrs	53	25	25.79	12.96
2	5.11.15	6.11.15	24 hrs	48	23	21.81	13.38
3	10.11.15	11.11.15	24 hrs	51	24	26.25	15.72
4	12.11.15	13.11.15	24 hrs	49	23	25.32	14.53
5	17.11.15	18.11.15	24 hrs	46	22	20.97	14.09
6	19.11.15	20.11.15	24 hrs	50	24	27.02	15.39
7	24.11.15	25.11.15	24 hrs	54	25	22.94	12.92
8	26.11.15	27.11.15	24 hrs	45	22	21.33	14.17
<b>Standards</b>				100	60	80	80

Location : Galammanagudi village

Sl No.	Date of		Duration of monitoring in hrs	Average PM <sub>10</sub> in $\mu\text{g}/\text{m}^3$	Average PM <sub>2.5</sub> in $\mu\text{g}/\text{m}^3$	Average SO <sub>2</sub> in $\mu\text{g}/\text{m}^3$	Average NO <sub>2</sub> in $\mu\text{g}/\text{m}^3$
	Collection	Receipt					
1	3.11.15	4.11.15	24 hrs	56	26	19.86	12.82
2	5.11.15	6.11.15	24 hrs	51	23	22.32	13.10
3	10.11.15	11.11.15	24 hrs	49	22	20.96	11.78
4	12.11.15	13.11.15	24 hrs	57	26	16.94	15.77
5	17.11.15	18.11.15	24 hrs	48	22	21.90	13.99
6	19.11.15	20.11.15	24 hrs	53	24	19.86	12.98
7	24.11.15	25.11.15	24 hrs	51	23	21.63	13.09
8	26.11.15	27.11.15	24 hrs	54	24	19.82	14.04
<b>Standards</b>				100	60	80	80

Note : PM<sub>10</sub> --- Particulate matter (size less than 10 $\mu\text{m}$ ), PM<sub>2.5</sub> -- Particulate matter(size less than 10  $\mu\text{m}$ ), SO<sub>2</sub> --- Sulphur dioxide, NO<sub>2</sub> --- Nitrogen dioxide

**INFERENCE : The measured values for all the parameters are within the Standards.**



Annexure-2

Month : Nov 2015

Date: (01.11.15 to 15.11.15)

**Fugitive Air Quality Results**

- 1 **Name of the Industry** : BMM Ispat Ltd., 114, Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680
- 2 **Sample collected by** : Premier Analytical Laboratories, Hospet.
- 3 **Particulars of sample collected** : Respirable dust sampler
- 4 **Report to be sent** : 02.12.2015
- 5 **Method adopted** : IS 5182 (Part 23) : 2006

Sl.No.	Location / Plant / Stack ID	Date of monitoring	Date of sample receipt	SPM in $\mu\text{g}/\text{m}^3$	Standard
<b>I. BENEFICATION PLANT-1</b>					
1	Power Room-BP (PR-2)	2.11.15	2.11.15	442	500
2	Main Canteen	2.11.15	2.11.15	427	500
3	Main Crusher	3.11.15	3.11.15	433	500
4	Iron Ore Screen	3.11.15	3.11.15	462	500
<b>II. PELLET PLANT-1</b>					
5	Pellet Lab	4.11.15	4.11.15	445	500
6	Project Office	4.11.15	4.11.15	421	500
7	Pellet Stock yard	5.11.15	5.11.15	457	500
8	Pellet Mixer building	5.11.15	5.11.15	463	500
<b>III. SPONGE IRON DIVISION-1</b>					
9	Near PSB	6.11.15	6.11.15	1337	2000
10	WHRB MCC	6.11.15	6.11.15	1185	2000
11	Control room SID-1	9.11.15	9.11.15	1412	2000
<b>IV. INDUCTION FURNACE &amp; ROLLING MILL</b>					
12	IF Office	9.11.15	9.11.15	437	500
13	RML Office	10.11.15	10.11.15	466	500
14	TMT Stock yard	10.11.15	10.11.15	458	500
<b>V. POWER PLANT - 25 MW</b>					
15	25 MW ESP	11.11.15	11.11.15	466	500
16	25 MW ACC	11.11.15	11.11.15	475	500
<b>VI. SITE SERVICES</b>					
17	Main Stores	13.11.15	13.11.15	441	500
18	Old Admin Building	13.11.15	13.11.15	423	500
19	New Admin building	14.11.15	14.11.15	458	500
20	Safety Office	14.11.15	14.11.15	475	500

Note : Suspended particulate matter

INFERENCE : The measured values at all the locations are within the limits.



Annexure-2

Month : Nov 2015

Date: (16.11.15 to 30.11.15)

**Fugitive Air Quality Results**

- 1 **Name of the Industry** : BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680
- 2 **Sample collected by** : Premier Analytical Laboratories, Hospet.
- 3 **Particulars of sample collected** : Respirable dust sampler
- 4 **Report to be sent** : 02.12.2015
- 5 **Method adopted** : IS 5182 (Part 23) : 2006

Sl.No.	Location / Plant / Stack ID	Date of monitoring	Date of sample receipt	SPM in $\mu\text{g}/\text{m}^3$	Standard
<b>I. BENEFICATION PLANT-1</b>					
1	Power Room-BP (PR-2)	16.11.15	16.11.15	454	<b>500</b>
2	Main Canteen	16.11.15	16.11.15	463	<b>500</b>
3	Main Crusher	17.11.15	17.11.15	427	<b>500</b>
4	Iron Ore Screen	17.11.15	17.11.15	446	<b>500</b>
<b>II. PELLET PLANT-1</b>					
5	Pellet Lab	18.11.15	18.11.15	452	<b>500</b>
6	Project Office	18.11.15	18.11.15	436	<b>500</b>
7	Pellet Stock yard	19.11.15	19.11.15	427	<b>500</b>
8	Pellet Mixer building	19.11.15	19.11.15	458	<b>500</b>
<b>III. SPONGE IRON DIVISION-1</b>					
9	Near PSB	20.11.15	20.11.15	1345	<b>2000</b>
10	WHRB MCC	20.11.15	20.11.15	1284	<b>2000</b>
11	Control room SID-1	23.11.15	23.11.15	1468	<b>2000</b>
<b>IV. INDUCTION FURNACE &amp; ROLLING MILL</b>					
12	IF Office	23.11.15	23.11.15	452	<b>500</b>
13	RML Office	24.11.15	24.11.15	433	<b>500</b>
14	TMT Stock yard	24.11.15	24.11.15	462	<b>500</b>
<b>V. POWER PLANT - 25 MW</b>					
15	25 MW ESP	25.11.15	25.11.15	487	<b>500</b>
16	25 MW ACC	25.11.15	25.11.15	465	<b>500</b>
<b>VI. SITE SERVICES</b>					
17	Main Stores	26.11.15	26.11.15	425	<b>500</b>
18	Old Admin Building	26.11.15	26.11.15	432	<b>500</b>
19	New Admin building	27.11.15	27.11.15	478	<b>500</b>
20	Safety Office	30.11.15	30.11.15	456	<b>500</b>

**Note : Suspended particulate matter***INFERENCE : The measured values at all the locations are within the limits.*



Month : Nov 2015  
Date: (01.11.15 to 15.11.15)

### Stack Monitoring Results

- 1 Name of the Industry : **BMM Ispat Ltd., 114, Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680**
- 2 Sample collected by : Premier Analytical Laboratories, Hospet
- 3 Particulars of sample collected : Vayubodhan Stack sampler VSS 1
- 4 Report to be sent : **02.12.2015**

Sl. No.	Stack Attached to	Date of Monitoring	Fuel used	Ta ° C	Ts ° C	V m/Sec	Height (m)	Diameter (m)	Result			Standard 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>	
<i>Chimneys with plume gas</i>												
1	<b>Pellet Plant-1 ESP</b>	2.11.15	Coal & furnace oil	29	130	7.22	100	7	44	29.62	8.80	<b>100</b>
2	<b>2X100TPD Sponge iron plant ESP</b>	2.11.15	Coal	28	128	14.41	60	2	75	81.38	11.73	<b>100</b>
3	<b>Induction Furnace-1</b>	3.11.15	Electric power	28	40	6.07	30	1	42	35.93	6.33	<b>150</b>
4	<b>Induction Furnace-2</b>	3.11.15	Electric power	28	40	7.18	30	1	45	33.06	11.23	<b>150</b>
5	<b>Rolling mill reheating furnace</b>	4.11.15	Coal	28	325	6.85	30	0.8	33	25.94	3.74	<b>100</b>
6	<b>AFBC Boiler ESP</b>	4.11.15	Coal	28	140	9.18	65	2.5	63	32.03	7.25	<b>100</b>
<i>Chimneys attached to Bag Filter (Dedusting units)</i>												
<b>I. BENEFICIATION PLANT</b>												
7	<i>Ore Crushing &amp; Screening</i>	5.11.15	NA				30	1	45			<b>50</b>
8	<i>Ore Fines Hopper Bottom</i>	5.11.15	NA				30	1	42			<b>50</b>
9	<i>Main Crusher (RMHS)</i>	6.11.15	NA				30	1	46			<b>50</b>
<b>II. PELLET PLANT</b>												
10	<i>Mixer Area</i>	6.11.15	NA				30	0.75	46			<b>50</b>
11	<i>Pellet Discharge Point</i>	9.11.15	NA				30	0.75	42			<b>50</b>
12	<i>Product Transfer Point</i>	9.11.15	NA				30	0.75	41			<b>50</b>
<b>III. 2X100 TPD Sponge Iron Unit</b>												
13	<i>Cooler Discharge-1</i>	10.11.15	NA				30	1.20	42			<b>50</b>
14	<i>Cooler Discharge-2</i>	10.11.15	NA				30	1.20	48			<b>50</b>
15	<i>Coal Crusher</i>	11.11.15	NA				30	1.20	43			<b>50</b>
16	<i>Transfer house</i>	13.11.15	NA				30	1.20	45			<b>50</b>
17	<i>Intermediate Bin</i>	14.11.15	NA				30	1.20	40			<b>50</b>

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2003)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2003)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005

Note : SO<sub>2</sub> --- Sulphur dioxide, NO<sub>2</sub> --- Nitrogen dioxide, ESP -- Electrostatic precipitator, AFBC -- Atmospheric fluidised bed combustion.

INFERENCE : The measured values at all the locations are within the limits



Month : Nov 2015  
Date: (16.11.15 to 30.11.15)

## Stack Monitoring Results

- 1 Name of the Industry : **BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district,**  
 2 Sample collected by : Premier Analytical Laboratories, Hospet  
 3 Particulars of sample collected : Vayubodhan Stack sampler VSS 1  
 4 Report to be sent : **02.12.2015**

Sl. No.	Stack Attached to	Date of Monitoring	Fuel used	Ta ° C	Ts ° C	V m/Sec	Height (m)	Diameter (m)	Result			Standard 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>	
<i>Chimneys with plume gas</i>												
1	<b>Pellet Plant-1 ESP</b>	16.11.15	Coal & furnace oil	28	132	7.35	100	7	45	41.10	10.36	<b>100</b>
2	<b>2X100TPD Sponge iron plant ESP</b>	16.11.15	Coal	29	129	14.49	60	2	73	66.97	14.75	<b>100</b>
3	<b>Induction Furnace-1</b>	17.11.15	Electric power	29	43	6.20	30	1	40	40.52	4.82	<b>150</b>
4	<b>Induction Furnace-2</b>	17.11.15	Electric power	29	42	7.12	30	1	42	28.00	7.40	<b>150</b>
5	<b>Rolling mill reheating furnace</b>	18.11.15	Coal	29	326	7.19	30	0.8	32	19.83	2.95	<b>100</b>
6	<b>AFBC Boiler ESP</b>	18.11.15	Coal	29	142	9.11	65	2.5	62	40.82	5.39	<b>100</b>
<i>Chimneys attached to Bag Filter (Dedusting units)</i>												
<b>I. BENEFICIATION PLANT</b>												
1	Ore Crushing & Screening	19.11.15	NA				30	1	42			<b>50</b>
2	Ore Fines Hopper Bottom	19.11.15	NA				30	1	40			<b>50</b>
3	Main Crusher (RMHS)	20.11.15	NA				30	1	43			<b>50</b>
<b>II. PELLET PLANT</b>												
3	Mixer Area	20.11.15	NA				30	0.75	44			<b>50</b>
4	Pellet Discharge Point	23.11.15	NA				30	0.75	46			<b>50</b>
5	Product Transfer Point	23.11.15	NA				30	0.75	43			<b>50</b>
<b>III. 2X100 TPD Sponge Iron Unit</b>												
6	Cooler Discharge-1	24.11.15	NA				30	1.20	40			<b>50</b>
7	Cooler Discharge-2	25.11.15	NA				30	1.20	45			<b>50</b>
8	Coal Crusher	26.11.15	NA				30	1.20	46			<b>50</b>
9	Transfer house	27.11.15	NA				30	1.20	42			<b>50</b>
10	Intermediate Bin	30.11.15	NA				30	1.20	38			<b>50</b>

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS : 11255 (Part 1) - 1985 (reaffirmed 2003)
SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) : 1985 (reaffirmed 2003)
NO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 7) : 2005

Note : SO<sub>2</sub> --- Sulphur dioxide, NO<sub>2</sub> --- Nitrogen dioxide, ESP -- Electrostatic precipitator, AFBC -- Atomospheric fluidised bed combustion.

INFERENCE : The measured values at all the locations are within the limits



## Ambient Noise Level Report

- 1 Name of the Industry : BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680.
- 2 Noise Level monitored by : Premier Analytical Laboratories, Hospet
- 3 Instruments used for monitoring : Integrating Noise meter Equinox EQ 107
- 4 Date of reporting : 02.12.2015

Sl. No.	Location	Date of Monitoring	Noise Level in dB(A)			
			Day time	Standard	Night time	Standard
1	Main Gate	3.11.15	68	75	54	70
2	Near ATM	4.11.15	62	75	52	70
3	Transit House	5.11.15	69	75	48	70
4	CAAQMS Station	6.11.15	70	75	52	70
5	Gunda Road	9.11.15	66	75	53	70
6	Gunda Railway Station	10.11.15	64	75	50	70
7	Bagging shed	13.11.15	63	75	52	70
8	Railway siding	16.11.15	65	75	55	70
9	4th Gate	17.11.15	67	75	50	70
10	Brick Plant	18.11.15	63	75	49	70
11	Kempuhalla (Wagon Tippler)	19.11.15	64	75	51	70
12	Danapura Bridge	20.11.15	68	75	46	70
13	2nd Gate	23.11.15	66	75	53	70
14	Project Store - 2	24.11.15	68	75	50	70
15	Despatch (Truck Parking Area)	25.11.15	65	75	52	70

Method adopted : IS : 9989 : 1981 (reaffirmed 2008)

**INFERENCE : The measured values at all the locations are within the limits.**

**WATER QUALITY DATA**

Month : November 2015

- 1 Name of the Industry : **BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680.**
- 2 Sample collected by : Premier Analytical Laboratories, Hospet
- 3 Date of collection : 30.11.2015
- 4 Particulars of sample collected : Grab sampling
- 5 Date of sample receipt : 30.11.2015
- 6 Report to be sent : 04.12.2015
- 7 Method adopted : IS method

Sl. No.	Parameters	IS: 10500 :2012 Norms		Test results			
		Desirable	Permissible	Danapur hand pump water	Hanumanhalli bore well water	Galemmanagudi bore well water	Mariammanahalli bore well water
1	pH	6.5-8.5	No relaxation	8.14	7.66	7.14	7.17
2	Turbidity, NTU	1	5	4.00	2.00	2.00	2.00
3	T.Dissolved Solids, mg/l	500	2000	1311	1014	1213	933
4	T.Alkalinity as CaCO <sub>3</sub> , mg/l	200	600	394	316	433	301
5	T.Hardness as CaCO <sub>3</sub> , mg/l	200	600	566	522	564	484
6	Calcium as Ca, mg/l	75	200	141	151	166	102
7	Magnesium as Mg, mg/l	30	100	52	35	36	55
8	Iron as Fe, mg/l	0.3	No relaxation	0.14	0.16	0.11	0.16
9	Chlorides as Cl, mg/l	250	1000	311	248	213	166
10	Sulphates as SO <sub>4</sub> , mg/l	200	400	230	141	246	224
11	Nitrates as NO <sub>3</sub> , mg/l	45	No relaxation	5.94	5.81	6.98	5.94
12	Flouride as F, mg/l	1	1.5	1.28	1.13	1.24	1.23
13	Total Chromium as Cr, mg/l	0.05	No relaxation	BDL	BDL	BDL	BDL
14	Ammonia as N	0.5	0.5	Nil	Nil	Nil	Nil
15	Manganese	0.1	0.3	BDL	BDL	BDL	BDL
16	Boron	0.5	1	BDL	BDL	BDL	BDL
17	Biochemical Oxygen Demand			1	2	2	1
18	E.Coli	Absent	Absent	Absent	Absent	Absent	Absent
19	Total coliform	Absent	Absent	Absent	Absent	Absent	Absent

**BDL - Below detectable limit**

**WATER QUALITY DATA**

Month : Nov 2015

- 1 Name of the Industry : **BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph No. 08394 244681 / 82, 244680.**
- 2 Sample collected by : Premier Analytical Laboratories, Hospet
- 3 Date of collection : 30.11.2015
- 4 Particulars of sample collected : Grab sampling
- 5 Date of sample receipt : 30.11.2015
- 6 Report to be sent : 04.12.2015
- 7 Method adopted : IS method

Sl. No.	Parameters	IS: 10500 :2012 Norms		Test results		
		Desirable	Permissible	Transit House borewell	Kempu halla Upstream	TB Dam Water
1	pH	6.5-8.5	No relaxation	8.14	7.23	7.51
2	Turbidity, NTU	1	5	3.00	2.00	1.00
3	T.Dissolved Solids, mg/l	500	2000	1433	936	291
4	T.Alkalinity as CaCO <sub>3</sub> , mg/l	200	600	494	322	66
5	T.Hardness as CaCO <sub>3</sub> , mg/l	200	600	536	514	134
6	Calcium as Ca, mg/l	75	200	141	104	28
7	Magnesium as Mg, mg/l	30	100	45	62	16
8	Iron as Fe, mg/l	0.3	No relaxation	0.13	0.14	0.13
9	Chlorides as Cl, mg/l	250	1000	194	266	64
10	Sulphates as SO <sub>4</sub> , mg/l	200	400	180	133	33
11	Nitrates as NO <sub>3</sub> , mg/l	45	No relaxation	7.14	5.17	6.14
12	Flouride as F, mg/l	1	1.5	1.31	0.94	1.11
13	Total Chromium as Cr, mg/l	0.05	No relaxation	BDL	BDL	BDL
14	Ammonia as N	0.5	0.5	Nil	Nil	Nil
15	Manganese	0.1	0.3	BDL	BDL	BDL
16	Boron	0.5	1	BDL	BDL	BDL
17	Biochemical Oxygen Demand	----	----	2	1	1
18	E.Coli	Absent	Absent	Absent	Absent	Absent
19	Total coliform	Absent	Absent	Absent	Absent	Absent

**BDL - Below detectable limit**





## WASTE WATER QUALITY DATA - November 2015

- 1 Name of the Industry : **BMM Ispat Ltd., 114, Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680**
- 2 Sample collected by : Premier Analytical Laboratories, Hospet
- 3 Date of collection : 30.11.2015
- 4 Particulars of sample collected : Composite sampling
- 5 Date of sample receipt : 30.11.2015
- 6 Report to be sent : 04.12.2015
- 7 Method adopted : APHA 22<sup>nd</sup> Edition 2012

Sl No.	Parameter	Unit	Tolerance limits	Neutralisation pit	
				70 MW Power plant	2x70 MW Power plant
1	Colour & Odour	----	Agreeable & Tolerable	Agreeable & Tolerable	Agreeable & Tolerable
2	Suspended solids	mg/l	100	1	2
3	Conductivity	µmhos/cm	2250	1331	1245
4	pH value	----	6 to 9.0	7.25	7.66
5	BOD 5 days at 20° C	mg/l	≤ 10	5	7
6	Turbidity	NTU	≤ 2	Nil	1
7	E.Coli	MPN/10 ml	None	Absent	Absent


**PREMIER ANALYTICAL LABORATORIES.,HOSPET**
**WASTE WATER QUALITY DATA - November 2015**

- 1 Name of the Industry : **BMM Ispat Ltd., 114,Danapur village - 583 222, Hospet Taluk, Bellary district, Karnataka. Ph no.08394 244681 / 82, 244680**
- 2 Sample collected by : Premier Analytical Laboratories, Hospet
- 3 Date of collection : 30.11.2015
- 4 Particulars of sample collected : Composite sampling
- 5 Date of sample receipt : 30.11.2015
- 6 Report to be sent : 04.12.2015
- 7 Method adopted : APHA 22<sup>nd</sup> Edition 2012

Sl No.	Parameter	Unit	Tolerance limits	STP-1 90 KLD	STP-2 90KLD	STP 45 KLD
1	pH value	----	6 to 9.0	7.23	7.88	7.64
2	B O D 5 days at 20° C	mg/l	≤ 10	4	7	6
3	Turbidity,	NTU	2	Nil	1	1
4	E.Coli	MPN/10 ml	None	Absent	Absent	Absent

BDL ---- Below detectable limit