BMM Ispat Ltd.,

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

ENVIRONMENT MONITORING REPORT

Stage 2 Units

For

APRIL-2016

Prepared By

GLOBAL ENVIRONMENT & MINING SERVICES
NABL Accredited Laboratory
(Consulting Engineers, Mine Designers, Geologists & Surveyors)
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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. 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: 05.05.2016

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 Shri Udaichand Singhi.

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 4900 Crores Company 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, Power & Mining companies in India that has achieved the present level under the leadership and guidance of Sri Dinesh Kumar Singh, the Founder & Chairman 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 has set up new merchant Bar Mill. The works is located at:

BMM ISPAT LIMITED
(Registered Office & Works)
#114, Danapura
Hospet - 583 222
Bellary Dist., Karnataka
Phone +91 08394-264000, +91 9686550808/09
Fax - 08394 264010

1.3 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. 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. Remaining units are under various stages of implementation.

Hence environmental pollution monitoring is 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, SMS, and RML.

1.4 The report includes environmental monitoring data collected at above site for the month of **April-2016**. 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.*

1.5 Study:

The data collection programmeis givenbelow:

1.6 Fugitive Emission Monitoring

Ambient Air Quality was monitored 40samples 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 st Fort night) &Annexure – 1/B(2nd Fort night) .***

1.7 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****(1st Fort night)****& Annexure – 2/B****(2nd Fort night)*

1.8 Stack Emissions Monitoring Methodology

1.9 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.

1.10 Traverse Point Calculation

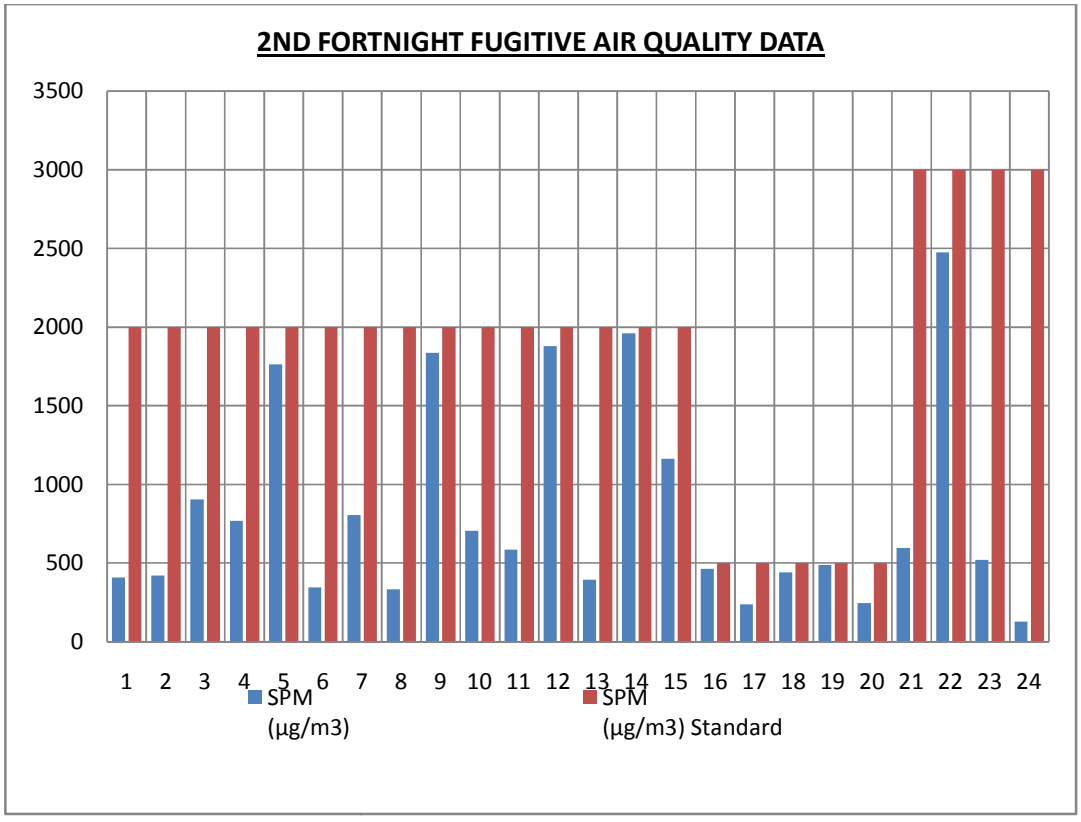
Calculate the traverse point and accordingly mark the distance from tip of the Nozzle, on Pitot tube and probe. Do not forget to add the collar length of port to the

calculated traverses. For detailed calculation of "Stack Monitoring– Material and Methodology for iskinetic sampling.

1.11 Determination of Dust Concentration

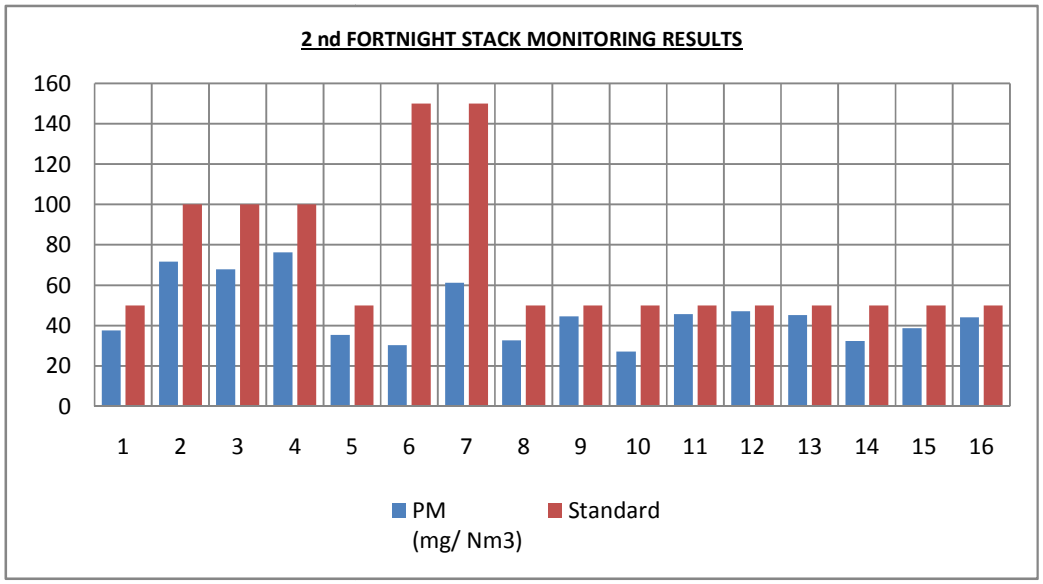
Determine the mass of dust collected in the thimble by difference i.e. weighing the thimble before and after the run. Dry the thimble in an oven for about 2 hours at 120^{o} C prior to sampling. After sampling, cool, dry and again weigh the thimble along with dust maintaining the same condition as prior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

1.12 Fortnightly fugitive air quality was monitored all plant area SPM value minimum **127.8 µg/m^3**, maximum value **2476.0 µg/m^3**,and average value **827.78 µg/m^3**. The Fugitive Monitoring results of 2 nd Fortnight is mentioned in graph.



1.13 Stack emission level was monitored all chimneys' PM values (mg/Nm^3)

2nd Fort Night Minimum Value **27.1 mg/Nm^3,** Maximum Value **76.4 mg/Nm^3** & Average Value **46.1 mg/Nm^3**. The Stack Monitoring results of . 1 st Fortnight & 2 nd 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 (2 nd Fort Night)

FORTNIGHTLY FUGITIVE AIR QUALITY DATA MONITORING APRIL -2016

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 : **05.05.2016**
5. Method adopted : IS 5182 (Part 4) : 2006

Sl.N0.	Location / Plant	Date Of Monitoring	Date Of Sample Receipt	SPM ($\mu g/m^3$)	Standard
I. Beneficiation Plant-II					
1.	Ball Mill Area (Zero Meter)	18.04.2016	19.04.2016	409.0	**2000**
2.	Between Concentrate & Tailing Thickner	18.04.2016	19.04.2016	421.0	**2000**
3.	FC 25 conveyor	18.04.2016	19.04.2016	904.8	**2000**
II. Pellet Plant-II					
4.	TG Zero Meter	19.04.2016	20.04.2016	768.3	**2000**
5.	Boiler Furnace	19.04.2016	20.04.2016	1762.2	**2000**
6.	PGP	19.04.2016	20.04.2016	345.2	**2000**
III. Sponge Iron Division -2 (Kiln 1 & 2)					
7.	Control room	20.04.2016	21.04.2016	804.9	**2000**
8.	Near Weigh bridge (dispatch)	20.04.2016	21.04.2016	360.7	**2000**
9.	Pellet Storage bin	20.04.2016	21.04.2016	1837.2	**2000**
IV. Sponge Iron Division -2 (Kiln 3 & 4)					
10.	Near Control room	21.04.2016	22.04.2016	704.6	**2000**
11.	Near Coal crusher	21.04.2016	22.04.2016	584.4	**2000**
12.	Near Product bin	21.04.2016	22.04.2016	1879.8	**2000**
V. Wagon Tipper/RMHS					
13.	Near Tipping point	22.04.2016	23.04.2016	394.2	**2000**
14.	CPU DE System	22.04.2016	23.04.2016	1961.3	**2000**
15.	Old Compressor room	22.04.2016	23.04.2016	1161.3	**2000**
VI. Power Plant-70 MW					
16.	70MW-DM Plant (Near R.O. Plant)	23.04.2016	25.04.2016	462.8	**500**
17.	Coal Screen (near gate weigh bridge)	23.04.2016	25.04.2016	236.7	**500**
18.	CFBC boiler	23.04.2016	25.04.2016	441.0	**500**
VII. 2X70MW Power Plant					
19.	Near Boiler	25.04.2016	26.04.2016	487.4	**500**
20.	Near Coal storage Shed	25.04.2016	26.04.2016	247.3	**500**
VIII . SMS Area					
21	Stock House/Vibro feeders	26.04.2016	27.04.2016	596.8	**3000**
22	Laddle Tapping	26.04.2016	27.04.2016	2476.0	**3000**
23	Slag Pouring Area	26.04.2016	27.04.2016	519.5	3000
IX. BAR MILL					
24	Near Reheating Furnace	25.04.2016	26.04.2016	127.8	**3000**

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

Analyzed By
Environmental Engineer
(G.Aarathi)

Authorised signatory
Technical Manager
(K.Ramakrishna Reddy)

Note:

1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
2. Samples will be destroyed after one month from the date of issue of test certificate unless otherwise specified.
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.

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** : **APRIL** - 2016 (**2nd Fort Night**)

Si. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta ^{o}C	TS ^{o}C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm ^{3})
									PM mg/Nm^3	SO_2 mg/Nm^3	NO_2 mg/Nm^3	
1	Pellet Plant-2 ESP	18.04.2016	Coal	38	149	5.76	100	7.00	37.6	70.12	5.22	50
2	2X500TPD Sponge iron kiln1&2 ESP	21.04.2016	Coal	39	146	5.58	70	3.00	71.7	62.64	3.68	100
3	2X500TPD Sponge iron kiln3&4 ESP	19.04.2016	Coal	39	152	5.96	70	3.00	67.8	58.66	8.26	100
4	1 X 70MW-CFBC Boiler ESP	20.04.2016	Coal	40	154	6.00	70	3.00	76.4	54.94	12.24	100
5	2X70MW -CFBC Boiler ESP	21.04.2016	Coal	40	163	6.17	110	8.00	35.3	62.58	10.62	50
6	SMS	25.04.2016	Coal	40	112	5.13	86	2.40	30.2	-	-	150
7	Bar mill	26.04.2016	-	40	257	7.87	87	3.00	61.1	-	-	150
Chimneys attached to Bag Filter (De dusting Units)												
Beneficiation Plant-2												
1	Iron Ore Cone Crusher	**NOT IN OPERATION**										50
2	Iron Ore Screening											50
Pellet Plant-2												
3	Additive grinding mill	**NOT IN OPERATION**										50
4	Mixer building											50
5	Pellet discharge point											50
2 X 500 TPD Sponge Iron Kiln 1 & 2												
6	Cooler Discharge -1	22.04.2016	---	---			30	1.20	32.7	----	----	50
7	Cooler Discharge -2	22.04.2016	---	---			30	1.20	44.6	----	----	50
8	Coal stock house	22.04.2016	---	---			30	1.20	27.1	----	----	50
9	Production Separation bin-1	22.04.2016	---	---			30	1.20	45.6	----	-----	50
10	Production Separation bin-2	22.04.2016	---	---			30	1.20	47.1	----	----	50
11	Transfer House	20.04.2016	---	---			30	1.20	45.2	----	----	50

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO_2 (mg/Nm3)	IS :11255 (Part 2) : 1985 (reaffirmed 2014)
NO_2 (mg/Nm3)	IS :11255 (Part 7) : 2005 (reaffirmed 2005)

Note :
SO_2 - Sulphur dioxide
NO_2 - Nitrogen dioxide
PM - Particulate matter

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STACK MONITORING RESULTS

Annexure – 2/B

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2. Sample collected by : GLOBAL Environment & Mining Services
3. Particulars of sample collected : Vayubodhan Stack sampler VSS 1
4. Month : **APRIL- 2016 (2nd Fort Night)**

Sl. No	Stack Attached to	Date of Monitoring	Fuel Used	Ta ^{0}C	TS ^{0}C	V m/Sec	HEIGHT (m)	Diameter (m)	Results			Standards PM (mg/ Nm3)
									PM mg/Nm^3	SO_2 mg/Nm^3	NO_2 mg/Nm^3	
Chimneys attached to Bag Filter (De dusting Units)												
2X500 TPD Sponge Iron Kiln 3&4												
12	Coal Primary Screen		---	---			30	1.20	Not in Operation			50
13	Coal Stock House -1 & coal stock house-2		---	---			30	1.20				50
14	Cooler Discharge -1	20.04.2016	---	---			30	1.20	32.4	----	----	50
15	Cooler Discharge -2 & PSB transfer tower	20.04.2016	---	---			30	1.20	38.6	----	----	50
16	Production Bunker & Intermediate bin		---	---			30	1.20	Not in Operation			50
17	Production Separation bin	20.04.2016	---	---			30	1.20	44.2	----	---	50
18	Pellet Stock house		---	---			30	1.20	Not in Operation			50
19	Dolochar Stock House 1 & 2		---	---			30	1.20				50
20	CPU Building		---	---			30	1.20				50

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS : 11255 (Part 1) - 1985 (reaffirmed 2009)
SO_2 (mg/Nm3)	IS 11255 (Part 2) : 1985 (reaffirmed 2014)
NO_2 (mg/Nm3)	IS 11255 (Part 7) : 2005 (reaffirmed 2005)

Note :
SO_2 - Sulphur dioxide
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