O/C

BMM®
POTENTIAL IN TONNES

No. BMM/ENV/2021-22/031

Date: 09.08.2021

To,
Environmental Officer
KSPCB Regional Office,
Sy No.597P, Ward No.15,
4th Main, Near Dr.Vishnuvardhana Park,
Kuvempunagara,
Ballari-583104

Dear Sir,

Sub: Submission of Monthly Environmental monitoring report of **M/s. BMM Ispat Ltd, Danapura Village**, Hospet Taluk, Bellary District-reg.

With respect to the above subject, we here by submitting the **Stage-I** Monthly Environmental monitoring report for the month of **July-2021**.The monitoring was carried out as per the CFO issued from your kind office.

Combined Consent Order No. AW-303323 dated: 08.08.2017. (Renewed & Valid up to 30.06.2022)

Thanking You,

Yours faithfully,
for M/s. **BMM Ispat Ltd.**

Prajadas 09/08/2021
Authorized Signatory

ಸ್ವೀಕೃತ 10/08/2021

Enclosure: Monitoring report for BMM Stage-I for the month of **July-2021**.

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CIN : U13100KA2002PLC030365 Email: bmmispat@bmm.in Website: www.bmm.in

ISO 9001 : 2015 ISO 14001 : 2015 ISO 45001 : 2018

BMM ISPAT LTD

ENVIRONMENTAL MONITORING REPORT

at

Danapur Village, Hospet Taluk,
Vijayanagara District, PIN-583222, Karnataka.

Stage - I

JULY-2021

Prepared by

GLOBAL ENVIRONMENT & MINING SERVICES
NABL & MOEF RECOGNIZED LABORATORY
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STAGE-I

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 AAQ Monitoring, Fugitive monitoring, Noise Monitoring, Water Analysis & Stack monitoring 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 AAQ Monitoring, Fugitive monitoring within the plant, Stack monitoring & Personal Dust Sampling 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: Hosapete
Date: 06.08.2021

Global Environment & Mining Services HOSPET

K. Ramakrishna Reddy
(Technical Manager)

1.0 INTRODUCTION

M/s. BMM Ispat Ltd, (BMMIL) is a 2.0 million tons integrated steel plant, manufacturing steel with its state of art in advanced technology and protecting environment. It is committed produce quality product, in environmentally friendly technology. Adopting sufficient air pollution control equipment's, 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 under Stage-I units (Manufacturing units coming under 2.0 MTPA integrated steel plant is monitored and are reported separately);

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

The report includes environmental monitoring data collected at above site and its surrounding areas, for the month of **JULY-2021**. The Parameters monitored are:

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

2.0 SCOPE AND METHODOLOGY

2.1 PREAMBLE

The scope of the study and the present report covers the detailed characterization of the existing environmental status in and around the plant area for major environmental components viz. Ambient & work zone air quality, Fugitive Emission, Noise level and water quality & Stack Emission.

2.2 AMBIENT AIR QUALITY

To assess the ambient air quality status, monitoring stations were identified 6 Location plant site. Work zone air monitoring stations were identified in the major work spots. Based on the production activities the parameters chosen for Ambient air quality. were Particulate Matter PM10, Particulate Matter (size less than 2.5μm) PM2.5.

2.2.1 PARTICULATE MATTER (PM10) (size less than 10μm).

Purpose

The purpose of this protocol is to provide guidelines for monitoring and analysis of Particulate Matter PM10 in ambient air

Reference Method: IS 5182 Part 23 Method of Measurement of Air Pollution: Respirable Suspended Particulate Matter (PM10) cyclonic flow technique.

Principle of the method

Air is drawn through a size-selective inlet and through a 20.3 X 25.4 cm (8 X 10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM10 in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.

Sampling

Field Sampling - Tilt back the inlet and secure it according to manufacturer's instructions. Loosen the faceplate wing nuts and remove the faceplate. Remove the filter from its jacket and center it on the support screen with the rough side of the filter facing upwards. Replace the faceplate and tighten the wing nuts to secure the rubber gasket against the filter edge. Gently lower the inlet. For automatically flow-controlled units, record the designated flow rate on the data sheet. Record the reading

of the elapsed time meter. The specified length of sampling is commonly 8 hours or 24 hours. During this period, several reading (hourly) of flow rate should be taken. After the required time of sampling, record the flow meter reading, take out the filter media from the sampler, and put in a container or envelope.

Analysis

Filter inspection: Inspect the filter for pin holes using a light table. Loose particles should be removed with a soft brush. Apply the filter identification number or a code to the filter if it is not a numbered. Condition the filter in conditioning room maintained within 20-30° C and 40-50% relative humidity or in an airtight desiccator for 24 hours. Take initial weight of the filter paper (Wi) before sampling. Condition the filter after sampling in conditioning room maintained within 20-30° C and 40-50% relative humidity or in an airtight desiccator for 24 hours. Take final weight of the filter paper (Wf).

2.2.2 Particulate Matter (PM2.5) (size less than 2.5µm).

Purpose

The purpose of this protocol is to provide guidelines for monitoring and analysis of Particulate Matter PM2.5 in ambient air.

Reference Method: USEPA 2001 Method of Measurement of Air Pollution: Particulate Matter (PM2.5) cyclonic flow technique.

Principle

An electrically powered air sampler draws ambient air at a constant volumetric flow rate (16.7 lpm) maintained by a mass flow / volumetric flow controller coupled to a microprocessor into specially designed inertial particle-size separator (i.e. cyclones or impactors) where the suspended particulate matter in the PM2.5 size ranges is separated for collection on a 47 mm polytetrafluoroethylene (PTFE) filter over a specified sampling period. Each filter is weighed before and after sample collection to determine the net gain due to the particulate matter. The mass concentration in the ambient air is computed as the total mass of collected particles in the PM2.5 size ranges divided by the actual volume of air sampled, and is expressed in µg/m3. The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate. In addition, the microprocessor calculates the average temperatures and pressure, total

volumetric flow for the entire sample run time and the coefficient of variation of the flow rate.

2.2.3 Sulphur Dioxide (SO2).

Purpose: The purpose of this protocol is to provide guidelines for monitoring and analysis of Sulphur dioxide in ambient air.

Reference Method: Modified West & Gaeke Method (IS 5182 Part 2 Method of Measurement of Air Pollution: Sulphur dioxide).

Sulphur dioxide from air is absorbed in a solution of potassium tetra chloromercurate (TCM). A dichloro sulphitomercurate complex, which resists oxidation by the oxygen in the air, is formed. Once formed, this complex is stable to strong oxidants such as ozone and oxides of nitrogen and therefore, the absorber solution may be stored for some time prior to analysis. The complex is made to react with para-rosaniline and formaldehyde to form the intensely coloured pararosaniline methyl sulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.

Sampling

Place 30 ml of absorbing solution in an impinger and sample for four hours at the flow rate of 1 L/min. After sampling measure the volume of sample and transfer to a sample storage bottle.

Analysis

Replace any water lost by evaporation during sampling by adding distilled water up to the calibration mark on the absorber. Mix thoroughly, pipette out 10 ml of the collected sample into a 25 ml volumetric flask. Add 1 ml 0.6% sulphamic acid and allow reacting for 10 minutes to destroy the nitrite resulting from oxides of nitrogen. Add 2 ml of 0.2% formaldehyde solution and 2 ml pararosaniline solution and make up to 25 ml with distilled water. Prepare a blank in the same manner using 10 ml of unexposed absorbing reagent. After a 30 min colour development interval and before 60 minutes, measure and record the absorbance of samples and reagent blank at 560 nm. Use distilled water; not the reagent blank, as the optical reference.

2.2.4 Nitrogen Di Oxide (NO_2):

Purpose

The purpose of this protocol is to provide guidelines for monitoring of nitrogen dioxide in ambient.

Principle of the method

Modified Jacobs & Hochheiser Method (IS 5182 Part 6 Methods for Measurement of Air Pollution: Oxides of nitrogen)

Ambient nitrogen dioxide (NO2) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO2) produced during sampling is determined calorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)- ethylenediamine di-hydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dye at 540 nm.

2.2.5 Ozone (Chemical method)

Purpose

The purpose of this protocol is to provide guidelines for monitoring of ozone in ambient air.

Principle of the method

Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 6.8 + 0.2. The iodine is determined spectrophotometrically by measuring the absorption of tri-iodide ion at 352 nm.

Sampling

Place 10 ml of absorbing solution in a standard impinger and sample for one hour at the flow rate of 1 L/min. Do not expose the absorbing reagent to direct sunlight. After sampling measure the volume of sample and transfer to a sample storage bottle.

Analysis

If, appreciable evaporation of the absorbing solution occurs during sampling, add water to bring the liquid volume to 10 ml. Within 30 to 60 minutes after sample collection, read the absorbance in a cuvette at 352 nm against a reference cuvette containing distilled water. Measure the absorbance of the unexposed reagent and subtract the value from the absorbance of the sample.

2.2.6 Ammonia (NH3)

Purpose

The purpose of this protocol is to provide guidelines for monitoring of ammonia in ambient air.

Principle of the method

Indophenol method Ammonia in the atmosphere is collected by bubbling a measured volume of air through a dilute solution of sulphuric acid to form ammonium sulphate. The ammonium sulphate formed in the sample is analyzed calorimetrically by reaction with phenol and alkaline sodium hypochlorite to produce indophenol. The reaction is accelerated by the addition of Sodium Nitroprusside as catalyst.

Sampling

Place 10 ml of absorbing solution in an impinger and sample for one hour at the flow rate of 1 to 2 L/min. After sampling measure the volume of sample and transfer to a sample storage bottle

Analysis

Transfer contents of the sample bottle to a 25 ml glass stopper graduated cylinder. Maintain all the solutions and sample at 25° C. Add 2 ml buffer. Add 5 ml of working phenol solution, mix, and fill to about 22 ml. Add 2.5 ml of working hypochlorite solution and rapidly mix. Dilute to 25 ml, mix and store in the dark for 30 minutes to develop colour. Measure the absorbance of the solution at 630 nm on a spectrophotometer using 1 cm cells. Prepare a reagent blank and field blank and measure the absorbance as done in the analysis of samples.

2.2.7 Benzo(a)Pyrene

Purpose

The purpose of this protocol is to provide guidelines for monitoring of Benzo (a) Pyrene (BaP) in ambient air.

Principle of the Method

It is based on BIS method IS 5182 (Part 12):2004 and USEPA method (TO-13). This method is designed to collect particulate phase PAHs in ambient air and fugitive emissions and to determine individual PAH compounds using capillary gas chromatograph equipped with flame ionization detector. It is a high volume (1.2m3/min) sampling method capable of detecting sub.ng/m3 concentration of PAH in 24 hours sample (i.e., collected in 3 shifts of 8 hour each with 480 m3 sampling volume of air)

Sampling

24 hr. sampling using PM10 high volume sampler with 8 hourly samples using EPM 2000 glass fibre or equivalent filter.

Sample Processing

Extraction: Filter papers (half of all the filters papers collected in a day) are cut into strips using scissors and transfer to 250 ml beaker. Add ~50 ml. of Toluene (GC/HPLC grade). These samples are extracted with toluene using ultra sonic bath for about 30 minutes. Repeat the procedure twice (50ml x 2 times) for complete extraction. Alternatively, sample can be extracted using Soxhlet extraction apparatus for about 8 hr. with Toluene and repeat it twice.

Filtration

Filter the extracted samples with Whatman filter paper no.41 containing 2 gm of Anhydrous Sodium Sulphate (to remove moisture).

Sample injection

Take 2µl of sample from the amber vial using standard gas tight syringe and inject in the Capillary GC-FID instrument for analysis. Record the resulting concentration of each PAH compound including B(a)P. A 10ng/µl concentration B(a)P or other PAH standards are to be injected in GC/FID instrument with every batch of samples. As a control Internal Standard of 10 ng/µl conc. is added to each sample prior to the analysis in case of internal calibration is used.

2.2.8 Benzene

Samples collected through active sampling (sorbent tubes) are extracted or desorbed by conventional solvent (generally 1-5 ml of carbon disulphide) using ultrasonication for 15 min to remove analyte from the sorbent material. Desorbed samples are analyzed using gas chromatograph (GC) fitted with capillary column and flame ionization detector (FID). A single tube may provide enough samples to permit several analyses.

Principle of the Method

IS 5182 (Part 11): 2006, The charcoal tubes are available in different sizes and contain varying amount of activated charcoal. The ambient air is sucked through the tube using a low flow sampler used for collection of BTX sample in a way that results in an enrichment of the relevant substances in the activated charcoal. Desorption of the

adsorbed benzene is done using carbon disulphide (CS2). The substances desorbed in the CS2 are analyzed by capillary gas chromatography. A flame ionization detector (FID) is used for analysis while quantification is performed using the internal/external standard.

Gas Chromatograph

Any suitable gas chromatograph with flame ionization detector (FlO) with fused silica capillary columns having a length of25 m or more, an internal diameter of 320 11m or below and with a stationary phase film thickness less than 1.5 11m as follows or equivalent may be recommended.

Sampling

Selection of Sorbent Tube '- Samples are collected in glass sampling tube filled with a activated charcoal (coconut shell), Chromo sorb 106 or other suitable adsorbent.

Analytical Procedure

Samples collected through active sampling (sorbent tubes) are extracted or desorbed by conventional solvent (generally 1-5 ml of carbon disulphide) using ultrasonication for 15 min to remove analyte from the sorbent material. Desorbed samples are analyzed using gas chromatograph (GC) fitted with capillary column and flame ionization detector (FID). A single tube may provide enough samples to permit several analyses.

2.2.9 Carbon Monoxide (CO)

Principle:

Samples containing carbon monoxide in the range of 0 to 100 mg/l are analyzed on a non-dispersive infrared absorption gas analyser, namely, an electro-optical spectrophotometer with no spectral dispersion component. It may consist of a single or double source of infrared energy and one or more infrared detectors separated by an optical cell or cells through one or more of which the sample flows, whereby the specific spectral absorption of the component of interest is determined.

Non dispersive Infrared (NDIR) Gas Analyser

The apparatus shall be constructed so as to be sutiable for operating within the temperature range of 15°C to 40°C and in a relative humidity range of 0 to 90 percent. The apparatus shall embody facilities for the analysis of continuously applied sample or a discrete sample of volume of 2.0 litres. In the later case the purification train shall

be of such a design and dead volume that 2.0 litres is adequate for its proper flushing out. The apparatus shall include facilities for the visual inspection of results and also for their recording. The scale shall be divided into steps of 1.0 percent full scale division (fsd).

Though the basic instrument recommended is for (0 to 100) mg/l range, for samples of higher mg/l range the instrument may be used with proper dilution and conditioning of the samples.

2.2.10 Lead (Pb), Nickel (Ni) & Arsenic (As)

Purpose

The purpose of this protocol is to provide guidelines for monitoring of Lead (Pb), Nickel (Ni) & Arsenic (As) in ambient air.

Principle of the method

The Atomic Absorption Spectroscopy (AAS) technique makes use of absorption spectrometry to assess the concentration of an analyte in the sample. The method is based on active sampling using PM10 Respirable Dust Sampler and then sample analysis is done by atomic absorption spectrophotometer.

Sampling procedure

Tilt back the inlet and secure it according to manufacturer's instructions. Loosen the face-plate wing-nuts and remove the face plate. Remove the filter from its jacket and centre it on the support screen with the rough side of the filter facing upwards. Replace the face-plate and tighten the wing-nuts to secure the rubber gasket against the filter edge. Gently lower the inlet. For automatically flow-controlled units, record the designated flow rate on the data sheet. Record the reading of the elapsed time meter. The specified length of sampling is commonly 8 hours or 24 hours. During this period, several reading (hourly) of flow rate should be taken. After the required time of sampling, record the flow meter reading and take out the filter media from the sampler and put in a container or envelope.

2.3 NOISE LEVELS

Measuring Equipment

The measurements should be made with a sound level meter as specified in IS :9779-1981 The A-weighting network and fast response should be used. The sound level should be measured at the place and time of the annoyance.

Conditions of Measurement

Ambient and work zone Noise level measurement was carried out using a sound level meter (Equinox-107) during day and night times. The measurements were carried out 1 m away from the source and 1 m away from the edge of the roads.

Outdoor measurements should be made at I.2 to l-5 m above the ground and, if practical, at least 3.5 m from walls, buildings or other sound reflecting structures. When circumstances indicate, measurements may be made at greater heights and closer to the wall (for example 0-5 m in front of an open window), provided this is specified and taken into consideration.

Indoor measurements should be made at a distance of at least 1 m from the walls, l-2 to 1.5 m above the floor, and about 1.5 m from the window(s). In order to reduce disturbances from standing waves, the sound levels measured indoors should be averaged over f 0-5 m of each of at least 3 positions. This is especially important when measuring low-frequency noise. The arithmetic average of the readings determines the value to be taken.

The statistical analysis can be based on analogue or digital recordings of the sound level. For estimating purposes, it may in some cases be sufficient to determine the statistical distribution by observing the sound level meter readings at intervals of time by a sampling technique,

The class intervals for the sound level must be chosen according to the character of the noise; in most cases an interval of 5 dB will be appropriate.

2.4 WATER SAMPLING

Collection and Preservation of Samples

Collection and preservation of water and wastewater samples; the general principles also apply to the sampling of solids or semisolid matrices.

Ensure that all sampling equipment is clean and quality-assured before use. Use sample containers that are clean and free of contaminants. Bake at 450°C all bottles to be used for organic analysis sampling.

Record of sample shall be as follows:

General information

- Sample identification number
- Location
- Sample collector

- Date and hour
- Sample type (Grab or composite)

Collection of Samples

Ground Water:

Grab samples: Grab samples are single collected at a specific spot at a site over a short period of time (typically seconds or minutes).

surface water:

Composite Sampling: Composite samples vertically over the depth of a water body in one location or horizontally along a specific water depth.

Sewage treatment plant water.

Integrated Sampling: For certain purposes, the information needed is best provided by analyzing mixtures of grab samples collected from different points simultaneously.

2.5 Fugitive Emission Monitoring

Fugitive air quality was monitored 36 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.

2.6 Stack Monitoring method

Stack Monitoring was Monitored 32 Samples Collected from 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% H2O2 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.

Stack Emissions Monitoring Methodology

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 is kinetic Sampling.

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

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 isokinetic sampling.

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 120oC prior to sampling. After sampling, cool, dry and again weigh the thimble along with dust maintaining the same condition as prior to sampling.

2.7 DATA ANALYSIS

2.7.1 BUFFERZONE AMBIENT AIR QUALITY STATUS

Danapur Village (A1)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 54.70, 14.28, 9.19 & 11.06 µg/m^3 respectively. All above the values were found within the Limits. And the results given in **Annexure-1.**

Mariyammanahalli Village (A2)

At this location, average of PM10, PM2.5, SO2, NO2values Average 56.02, 15.81, 7.95 & 9.80 µg/m^{3}respectively. All above the values were found within the Limits. And the results given in **Annexure-2.**

Hanumanahalli Village (A3)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 53.81, 15.33, 7.87 & 9.64 µg/m^{3}respectively. All above the values were found within the Limits. results given in **Annexure-3.**

Galemmanagudi Village (A4)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 53.96, 14.98, 7.71 & 9.30 µg/m3respectively. All above the values were found within the Limits. results given in **Annexure-4.**

Gunda Village (A5)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 47.90, 13.79, 6.93 & 8.54 µg/m3respectively. All above the values were found within the Limits. results given in **Annexure-5.**

Gunda Tanda Village (A6)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 49.45, 14.18, 7.41 & 9.34 µg/m3respectively. All above the values were found within the Limits. results given in **Annexure-6.**

2.8 FUGITIVE DUST CONCENTRATION

Fortnightly fugitive air quality was monitored all plant area SPM value minimum 255.18 µg/m3, maximum value 1737.84 µg/m3, and average value 833.97 µg/m3. The Fugitive air quality 1st & 2nd Fortnight Results given in **Annexure-7 & Annexure-8.**

2.9 STACK MONITORING

Stack emission level was monitored as per the statutory requirement on twice in month. Stack emission level was monitored all chimneys' PM values (mg/Nm3) 1st and 2nd Fort Night Minimum Value 37.2 mg/Nm3, Maximum Value 61.50 mg/Nm3 & Average Value 44.90 mg/Nm3.The Stack Emission Results given in **Annexure-9 & Annexure-19**.

3.0 AMBIENT NOISE LEVEL MEASUREMENT

Noise level was recorded at 30 locations each in Ambient and work zone area using Sound Level Meter (Equinox -EQ 107 Instrument / SL-4001) The Day & Night time noise level values were ranging between 48.2 to 72.1 dB (A) and 46.9 to 65.8 dB (A). The noise level status is given in **Annexure-20 & Annexure-21**.

3.1 Water Sample Collected at 18 locations in side plant and surrounding nearest villages and nearest surface water Sample Collected every Month. The Water Analysis Test Report is given in **Annexure-22 & Annexure-28.**

3.2 CONCLUSION

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

GEMS
NABET
NABL Certificate No.: TC-5323

GLOBAL ENVIRONMENT & MINING SERVICES
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HOSPET – 583201, Dist., Bellary (Karnataka)
Ph : +918394 229433, 295018
e-mail : gems_hpt@yahoo.com
Website : www.globalmining.in

ANNEXURE-01
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A1-Danapur Village**
Duration of Monitoring	:	24 Hour
Report Issued Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000515F**

Parameters			PM_{10} [µg/m³]		$PM_{2.5}$ [µg/m³]		SO_2 [µg/m³]		NO_2 [µg/m³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.07.2021	02.07.2021	1638	61.75	100	16.29	60	10.93	80	12.85	80
02.07.2021	03.07.2021	1652	54.43		13.98		8.17		10.91	
05.07.2021	06.07.2021	1664	48.98		9.87		7.81		9.26	
06.07.2021	07.07.2021	1680	57.36		14.95		10.22		11.24	
13.07.2021	14.07.2021	1755	46.41		9.46		7.19		9.37	
14.07.2021	15.07.2021	1786	55.14		15.84		9.35		11.76	
19.07.2021	20.07.2021	1867	63.87		19.73		11.12		13.12	
20.07.2021	21.07.2021	1885	49.63		14.12		8.71		9.98	
Average			**54.70**		**14.28**		**9.19**		**11.06**	

INFERENCE	**As per NAAQMS Standards (2009),** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

Note:
1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
2. Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not use any advertising media without special permission in writing.
4. Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
5. **The tests results marked with * Recognised by MOEF & CC**
6. Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
7. Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey

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NABL Certificate No.: TC-5323

ANNEXURE-02
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A2 -Mariyammana halli Village**
Duration of Monitoring	:	24 Hour
Report Issued Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000516F**

RESULTS

Parameters			PM_{10} [µg/m³]		$PM_{2.5}$ [µg/m³]		SO_2 [µg/m³]		NO_2 [µg/m³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.07.2021	02.07.2021	1639	55.91		15.48		6.93		7.91	
02.07.2021	03.07.2021	1653	63.84		18.45		8.26		10.72	
05.07.2021	06.07.2021	1665	47.67		12.08		7.16		9.43	
06.07.2021	07.07.2021	1681	59.35		17.48		8.58		10.46	
13.07.2021	14.07.2021	1756	44.58	**100**	10.52	**60**	6.74	**80**	8.78	**80**
14.07.2021	15.07.2021	1787	65.71		20.57		9.67		11.12	
19.07.2021	20.07.2021	1868	57.59		17.32		8.91		10.06	
20.07.2021	21.07.2021	1886	53.47		14.58		7.34		9.91	
Average			**56.02**		**15.81**		**7.95**		**9.80**	

INFERENCE	**As per NAAQMS Standards (2009),** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

Note:
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4. Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
5. **The tests results marked with * Recognised by MOEF & CC**
6. Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
7. Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey

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ANNEXURE-03
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/R038
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A3 -Hanumanahalli Village**
Duration of Monitoring	:	24 Hour
Report Issued Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000517F**

RESULTS

Parameters			PM_{10} [µg/m³]		$PM_{2.5}$ [µg/m³]		SO_2 [µg/m³]		NO_2 [µg/m³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.07.2021	02.07.2021	1640	56.62		16.61		7.62		9.37	
02.07.2021	03.07.2021	1654	48.31		13.53		6.74		8.78	
05.07.2021	06.07.2021	1666	63.77		19.15		9.31		10.72	
06.07.2021	07.07.2021	1682	54.35		15.09		7.58		9.43	
13.07.2021	14.07.2021	1757	47.42	100	12.67	60	6.99	80	7.91	80
14.07.2021	15.07.2021	1788	51.88		15.24		8.26		10.06	
19.07.2021	20.07.2021	1869	49.19		13.86		7.32		9.74	
20.07.2021	21.07.2021	1887	58.91		16.49		9.12		11.12	
Average			53.81		15.33		7.87		9.64	

INFERENCE	**As per NAAQMS Standards (2009),** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-04
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A4-Galemmanagudi Village**
Duration of Monitoring	:	24 Hour
Report Issue Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000533F**

RESULTS

Parameters			PM_{10} [µg/m³]		$PM_{2.5}$ [µg/m³]		SO_2 [µg/m³]		NO_2 [µg/m³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
08.07.2021	09.07.2021	1707	60.24		16.32		8.58		10.72	
09.07.2021	10.07.2021	1723	51.37		14.26		6.74		7.91	
16.07.2021	17.07.2021	1831	55.48		15.74		7.62		8.64	
17.07.2021	18.07.2021	1853	47.29		13.27		6.91		9.26	
22.07.2021	23.07.2021	1912	43.76	100	10.91	60	6.43	80	7.91	80
23.07.2021	24.07.2021	1956	61.91		17.65		9.67		11.12	
27.07.2021	28.07.2021	2023	54.64		14.97		7.49		8.78	
28.07.2021	29.07.2021	2036	56.95		16.73		8.26		10.06	
Average			53.96		14.98		7.71		9.30	

INFERENCE	**As per NAAQMS Standards (2009),** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

Note:
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ANNEXURE-05
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A5-Gunda Village**
Duration of Monitoring	:	24 Hour
Report Issue Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000534F**

RESULTS

Parameters			PM10 [µg/m3]		PM2.5 [µg/m3]		SO2 [µg/m3]		NO2 [µg/m3]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
08.07.2021	09.07.2021	1708	52.47		15.34		7.34		9.12	
09.07.2021	10.07.2021	1724	43.71		11.92		6.43		7.91	
16.07.2021	17.07.2021	1832	48.36		14.86		6.91		7.45	
17.07.2021	18.07.2021	1854	50.63		15.03		7.16		9.26	
22.07.2021	23.07.2021	1913	39.95	**100**	9.57	**60**	5.98	**80**	7.14	**80**
23.07.2021	24.07.2021	1957	41.12		12.21		6.43		7.45	
27.07.2021	28.07.2021	2024	55.38		16.02		8.01		10.06	
28.07.2021	29.07.2021	2037	51.61		15.34		7.16		9.92	
Average			**47.90**		**13.79**		**6.93**		**8.54**	

INFERENCE	**As per NAAQMS Standards (2009),** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

Note:
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ANNEXURE-06
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Ambient Air Quality Monitoring
Particulars of Sample Collected	:	Respirable Dust Sampler, FPS Sampler
Month	:	**July-2021**
Location	:	**A6-Gunda Tanda Village**
Duration of Monitoring	:	24 Hour
Report Issue Date	:	**06.08.2021**
Report Number	:	**ULR-TC532321000000535F**

RESULTS

Parameters			PM_{10} [µg/m³]		$PM_{2.5}$ [µg/m³]		SO_2 [µg/m³]		NO_2 [µg/m³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
08.07.2021	09.07.2021	1709	48.97		13.75		7.32		9.26	
09.07.2021	10.07.2021	1725	53.28		16.13		8.17		10.04	
16.07.2021	17.07.2021	1833	45.12		12.95		6.99		8.78	
17.07.2021	18.07.2021	1855	49.37		14.58		7.62		9.91	
22.07.2021	23.07.2021	1914	41.58	100	9.96	60	6.74	80	8.64	80
23.07.2021	24.07.2021	1958	52.79		15.24		6.57		7.91	
27.07.2021	28.07.2021	2025	48.98		13.71		7.32		9.43	
28.07.2021	29.07.2021	2038	55.53		17.15		8.58		10.72	
Average			49.45		14.18		7.41		9.34	

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit.

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-07
GEMS-LD/TF/11/01

FORTNIGHTLY FUGITIVE AIR QUALITY MONITORING DATA

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	RDS Sampler (GEMS-01, GEMS-02, GEMS-03, GEMS-04, GEMS-05)
5	Month	:	**July-2021 (1st Fort Night)**
6	Discipline	:	Chemical
7	Group	:	Atmospheric Pollution
8	Method adopted	:	IS 5182 (Part 4): 1999 RA 2014
9	Report Issued Date	:	**06.08.2021**
10	Report Number	:	**ULR-TC532321000000513F**

Sl. NO.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM (µg/m³)	Standard
I. Beneficiation Plant-1						
1.	Main Canteen	1781	14.07.2021	15.07.2021	631.46	2000
2.	Main Crusher	1633	01.07.2021	02.07.2021	1065.40	2000
3.	Iron Ore Screen	1634	01.07.2021	02.07.2021	1737.84	2000
II. Pellet Plant-I						
4.	Pellet Stock Yard	1784	14.07.2021	15.07.2021	1669.30	2000
5.	Near Pellet Plant	1782	14.07.2021	15.07.2021	312.89	2000
6.	TG Zero Meter	1783	14.07.2021	15.07.2021	1736.37	2000
III. Sponge Iron Division-1						
7.	Near Product Bin	1810	15.07.2021	16.07.2021	345.91	2000
8.	Coal Feeding Area	1811	15.07.2021	16.07.2021	1324.50	2000
9.	Control Room SID-1	1809	15.07.2021	16.07.2021	975.11	2000
IV. Induction Furnace & Rolling Mill						
10.	IF Office	1785	14.07.2021	15.07.2021	656.05	2000
11.	RML Office	1813	15.07.2021	16.07.2021	255.18	2000
12.	TMT Stock Yard	1812	15.07.2021	16.07.2021	431.89	2000
V. Power Plant 25 MW						
13.	25 MW ESP	1752	13.07.2021	14.07.2021	1310.81	2000
14.	25 MW ACC	1753	13.07.2021	14.07.2021	1039.96	2000
VI. Site Services						
15.	Main Stores	1754	13.07.2021	14.07.2021	1129.85	2000
16.	Old Admin Building	1649	02.07.2021	03.07.2021	616.27	2000
17.	Labour Gate	1650	02.07.2021	03.07.2021	346.51	2000
18.	Safety Office	1651	02.07.2021	03.07.2021	428.63	2000

Note: SPM- Suspended Particulate matter. (µg/m³), **INFERENCE:** The Measured Values are within the limits

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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Website : www.globalmining.in

ANNEXURE-08
GEMS-LD/TF/11/01

FORTNIGHTLY FUGITIVE AIR QUALITY MONITORING DATA

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	RDS Sampler (GEMS-01, GEMS-02, GEMS-03, GEMS-04, GEMS-05)
5	Month	:	**July-2021 (2nd Fort Night)**
6	Discipline	:	Chemical
7	Group	:	Atmospheric Pollution
8	Method adopted	:	IS 5182 (Part 4): 1999 RA 2014
9	Report Issued Date	:	**06.08.2021**
10	Report Number	:	**ULR-TC532321000000601F**

Sl. NO.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM (µg/m³)	Standard
I. Beneficiation Plant-1						
1.	Main Canteen	1901	21.07.2021	22.07.2021	559.12	2000
2.	Main Crusher	1880	20.07.2021	21.07.2021	425.00	2000
3.	Iron Ore Screen	1881	20.07.2021	21.07.2021	739.45	2000
II. Pellet Plant-I						
4.	Pellet Stock Yard	1902	21.07.2021	22.07.2021	1217.07	2000
5.	Near Pellet Plant	1988	26.07.2021	27.07.2021	736.21	2000
6.	TG Zero Meter	1987	26.07.2021	27.07.2021	1393.88	2000
III. Sponge Iron Division-1						
7.	Near Product Bin	2057	30.07.2021	31.07.2021	572.55	2000
8.	Coal Feeding Area	2058	30.07.2021	31.07.2021	1159.02	2000
9.	Control Room SID-1	2044	29.07.2021	30.07.2021	811.59	2000
IV. Induction Furnace & Rolling Mill						
10.	IF Office	2019	27.07.2021	28.07.2021	564.36	2000
11.	RML Office	2032	28.07.2021	29.07.2021	630.21	2000
12.	TMT Stock Yard	2020	27.07.2021	28.07.2021	483.09	2000
V. Power Plant 25 MW						
13.	25 MW ESP	2033	28.07.2021	29.07.2021	1142.55	2000
14.	25 MW ACC	2034	28.07.2021	29.07.2021	834.25	2000
VI. Site Services						
15.	Main Stores	2035	28.07.2021	29.07.2021	1002.57	2000
16.	Old Admin Building	2045	29.07.2021	30.07.2021	887.31	2000
17.	Labour Gate	2046	29.07.2021	30.07.2021	468.08	2000
18.	Safety Office (OHC)	2047	29.07.2021	30.07.2021	382.86	2000

Note: SPM - Suspended Particulate matter (µg/m³), **INFERENCE:** The Measured Values are within the limits.

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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NABL Certificate No.: TC-5323

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ANNEXURE-09
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/R038
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Sampling Location	:	**Pellet Plant-1 ESP**
9	Month of Sampling	:	**July-2021**
10	Date of Sample Received	:	14.07.2021 & 20.07.2021
11	Date of Sample Analysis	:	15.07.2021 & 21.07.2021
12	Date Sample Analysis Completion	:	16.07.2021 & 22.07.2021
13	Report Issued Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000571F**

Stack Details

1	Flue Used	Coal & furnace oil
2	Stack Height (mtr)	100.0
3	Stack Diameter (mtr)	7.0

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1st Fort Night	2nd Fort Night	
	Date of Monitoring			14.07.2021	20.07.2021	
	Sample Code			1789	1888	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C	27	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C	75	71	-
3	Velocity of Flue Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	6.32	5.95	-
4	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm^3	52.60	59.40	100
5	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m^3/hr	875713	824445	-
6	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm^3/hr	754925	723786	-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm^3	27.17	14.30	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm^3	6.15	0.00	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.00	0.00	-

Note: NS- Not Specified, RA: Reaffirmed, **INFERENCE:** The Measured Values are within the limits.,

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-10
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Sampling Location	:	**2X100TPD Sponge iron plant ESP**
9	Month of Sampling	:	**July-2021**
10	Date of Sample Received	:	15.07.2021 & 30.07.2021
11	Date of Sample Analysis	:	16.07.2021 & 31.07.2021
12	Date Sample Analysis Completion	:	17.07.2021 & 01.08.2021
13	Report Issued Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000581F**

Stack Details

1	Flue Used	Coal
2	Stack Height (mtr)	60.0
3	Stack Diameter (mtr)	2.00

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1st Fort Night	2nd Fort Night	
	Date of Monitoring			15.07.2021	30.07.2021	
	Sample Code			1814	2059	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^{0}C	30	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^{0}C	138	130	-
3	Velocity of Flue Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	7.03	6.72	-
4	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm^3	48.20	54.20	100
5	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m^3/hr	79518	76011	-
6	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm^3/hr	59203	56961	-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm^3	22.88	31.46	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm^3	8.20	12.30	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.000	0.005	-

Note: NS- Not Specified. RA: Reaffirmed, **INFERENCE:** The Measured Values are within the limits.,

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
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Global Environment & Mining Services HOSPET

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ANNEXURE-11
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Sampling Location	:	**Induction Furnace 1 & 2**
9	Month of Sampling	:	**July-2021**
10	Date of Sample Received	:	-
11	Date of Sample Analysis	:	-
12	Date Sample Analysis Completion	:	-
13	Report Issued Date	:	**06.08.2021**
14	Report Number	:	-

Stack Details

1	Flue Used	Electric Power
2	Stack Height (mtr)	30.0
3	Stack Diameter (mtr)	1.0

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1st Fort Night	2nd Fort Night	
	Date of Monitoring			-	-	
	Sample Code			-	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C	Under Maintenance		-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C			-
3	Velocity of Flue Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec			-
4	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm^3			100
5	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m^3/hr			-
6	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm^3/hr			-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm^3			NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm^3			NS
9	Carbon Monoxide	GEMS/SOP/69	%			-

Note: NS- Not Specified, RA: Reaffirmed, **INFERENCE:** The Measured Values are within the limits.,

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services * HOSPET

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ANNEXURE-12
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Sampling Location	:	**Rolling mill reheating furnace**
9	Month of Sampling	:	**July-2021**
10	Date of Sample Received	:	14.07.2021 & 26.07.2021
11	Date of Sample Analysis	:	15.07.2021 & 27.07.2021
12	Date Sample Analysis Completion	:	16.07.2021 & 28.07.2021
13	Report Issued Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000560F**

Stack Details

1	Flue Used	Coal
2	Stack Height (mtr)	30.0
3	Stack Diameter (mtr)	0.8

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1st Fort Night	2nd Fort Night	
	Date of Monitoring			13.07.2021	26.07.2021	
	Sample Code			1758	1992	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^{0}C	29	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^{0}C	56	72	-
3	Velocity of Flue Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	5.16	6.06	-
4	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm^3	53.40	61.50	100
5	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m^3/hr	9339	10967	-
6	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm^3/hr	8572	9600	-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm^3	20.02	17.16	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm^3	0.00	24.60	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.009	0.013	-

Note: NS- Not Specified. RA: Reaffirmed, **INFERENCE:** The Measured Values are within the limits.,

Analysed By
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Chemist

Authorised Signatory
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ANNEXURE-13
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1Sl.No. 304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Sampling Location	:	**AFBC Boiler ESP (25 MW Power Plant)**
9	Month of Sampling	:	**July-2021**
10	Date of Sample Received	:	-
11	Date of Sample Analysis	:	-
12	Date Sample Analysis Completion	:	-
13	Report Issued Date	:	**06.08.2021**
14	Report Number	:	-

Stack Details

1	Flue Used	Coal
2	Stack Height (mtr)	65.0
3	Stack Diameter (mtr)	2.5

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1st Fort Night	2nd Fort Night	
	Date of Monitoring			-	-	
	Sample Code			-	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C	Shutdown		-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^0C			-
3	Velocity of Flue Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec			-
4	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm^3			100
5	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m^3/hr			-
6	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm^3/hr			-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm^3			NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm^3			NS
9	Carbon Monoxide	GEMS/SOP/69	%			-

Note: NS- Not Specified. RA: Reaffirmed,

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-14
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (1st Fort Night)**
9	Date of Sample Received	:	13.07.2021
10	Date of Sample Analysis	:	14.07.2021
11	Date Sample Analysis Completion	:	15.07.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000561F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
Beneficiation Plant											
1	Ore Crushing & Screening	**13.07.2021**	**1759**	---	26	36	**4.83**	30	1.20	43.4	**50**
2	Ore Fines Hopper Bottom	**13.07.2021**	**1760**	---	26	38	**5.17**	30	1.20	45.2	**50**
3	Main Crusher (RMHS)	**13.07.2021**	**1761**	---	28	32	**4.98**	30	1.20	39.8	**50**

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
1	Ore Crushing & Screening	**19668**	**19031**	-
2	Ore Fines Hopper Bottom	**21052**	**20240**	-
3	Main Crusher (RMHS)	**20279**	**20013**	-

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
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Chemist

Authorised Signatory
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ANNEXURE-15
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (1st Fort Night)**
9	Date of Sample Received	:	14.07.2021
10	Date of Sample Analysis	:	15.07.2021
11	Date Sample Analysis Completion	:	16.07.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000572F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
Pellet Plant											
4	Mixed Area	**14.07.2021**	**1790**	---	26	38	**5.62**	30	1.20	39.4	**50**
5	Pellet Discharge Point	**14.07.2021**	**1791**	---	28	35	**5.81**	30	1.20	42.7	**50**
6	Product Transfer Point	**14.07.2021**	**1792**	---	29	39	**5.47**	30	1.20	45.1	**50**

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
4	Mixed Area	**22885**	**22002**	-
5	Pellet Discharge Point	**23659**	**23121**	-
6	Product Transfer Point	**22274**	**21560**	-

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
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NABL Certificate No.: TC-5323

BMM STAGE-I

ANNEXURE-16
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (1st Fort Night)**
9	Date of Sample Received	:	15.07.2021
10	Date of Sample Analysis	:	16.07.2021
11	Date Sample Analysis Completion	:	17.07.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000582F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
2 X 100 TPD Sponge Iron Kiln 1 & 2											
7	Cooler Discharge -1	**15.07.2021**	**1815**	---	29	35	**5.23**	30	1.20	40.7	**50**
8	Cooler Discharge -2	**15.07.2021**	**1816**	---	28	37	**4.98**	30	1.20	42.1	**50**
9	Coal Crusher	**15.07.2021**	**1817**	---	30	40	**5.01**	30	1.20	37.6	**50**
10	Transfer House	**15.07.2021**	**1818**	---	29	37	**5.22**	30	1.20	43.3	**50**
11	Intermediate Bin	**15.07.2021**	**1819**	---	29	35	**5.06**	30	1.20	46.9	**50**

Sl. No	2 X 100 TPD Sponge Iron Kiln 1 & 2	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
7	Cooler Discharge -1	**21297**	**20882**	-
8	Cooler Discharge -2	**20279**	**19690**	-
9	Coal Crusher	**20401**	**19749**	-
10	Transfer House	**21256**	**20707**	
11	Intermediate Bin	**20604**	**20203**	

Parameter	Protocol
Particulate Matter (mg/Nm³)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-17
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (2ND Fort Night)**
9	Date of Sample Received	:	26.07.2021
10	Date of Sample Analysis	:	27.07.2021
11	Date Sample Analysis Completion	:	28.07.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000624F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
Beneficiation Plant											
1	Ore Crushing & Screening	**26.07.2021**	**1993**	---	30	43	**4.90**	30	1.20	41.7	**50**
2	Ore Fines Hopper Bottom	**26.07.2021**	**1994**	---	30	39	**5.04**	30	1.20	43.4	**50**
3	Main Crusher (RMHS)	**26.07.2021**	**1995**	---	26	40	**4.86**	30	1.20	37.2	**50**

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
1	Ore Crushing & Screening	**19953**	**19132**	-
2	Ore Fines Hopper Bottom	**20523**	**19931**	-
3	Main Crusher (RMHS)	**19790**	**18905**	-

Parameter	Protocol
Particulate Matter (mg/Nm³)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
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Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

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ANNEXURE-18
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (2NDFort Night)**
9	Date of Sample Received	:	20.07.2021
10	Date of Sample Analysis	:	21.07.2021
11	Date Sample Analysis Completion	:	28.07.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000602F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
Pellet Plant											
4	Mixed Area	**20.07.2021**	**1889**	---	28	37	**5.34**	30	1.20	42.3	**50**
5	Pellet Discharge Point	**20.07.2021**	**1890**	---	29	42	**5.02**	30	1.20	45.1	**50**
6	Product Transfer Point	**20.07.2021**	**1891**	---	29	45	**5.28**	30	1.20	41.7	**50**

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
4	Mixed Area	**21745**	**21113**	-
5	Pellet Discharge Point	**20442**	**19598**	-
6	Product Transfer Point	**21500**	**20419**	-

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
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Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

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ANNEXURE-19
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/R038
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler **VSS 1 Sl.No.304 DTB 07**
5	Discipline	:	Chemical
6	Group	:	Atmospheric Pollution
7	Sample Type	:	Stack Monitoring
8	Date of Analysis Completion	:	**July-2021 (2NDFort Night)**
9	Date of Sample Received	:	30.07.2021
10	Date of Sample Analysis	:	31.07.2021
11	Date Sample Analysis Completion	:	01.08.2021
12	Report Issued Date	:	**06.08.2021**
13	Report Number	:	**ULR-TC532321000000635F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm³	KSPCB Std mg/Nm³
Chimneys attached to Bag Filter (De dusting Units)											
2 X 100 TPD Sponge Iron Kiln 1 & 2											
7	Cooler Discharge -1	30.07.2021	2060	---	29	40	5.28	30	1.20	43.5	50
8	Cooler Discharge -2	30.07.2021	2061	---	29	43	5.21	30	1.20	39.7	50
9	Coal Crusher	30.07.2021	2062	---	30	41	5.43	30	1.20	40.4	50
10	Transfer House	30.07.2021	2063	---	30	44	4.97	30	1.20	42.1	50
11	Intermediate Bin	30.07.2021	2064	---	31	45	5.34	30	1.20	44.6	50

Sl. No	2 X 100 TPD Sponge Iron Kiln 1 & 2	Gas flow rate at Stack Condition m³/hr	Gas flow rate at NTP Nm³/hr	KSPCB Std
7	Cooler Discharge -1	21500	20745	-
8	Cooler Discharge -2	21215	20275	-
9	Coal Crusher	22111	21337	-
10	Transfer House	20238	19344	
11	Intermediate Bin	21745	20787	

Parameter	Protocol
Particulate Matter (mg/Nm3)	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By
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Technical Manager

Global Environment & Mining Services ★ HOSPET

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ANNEXURE-20
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Noise Level Monitoring
Particulars of Sample Collected	:	Equinox-107
Month	:	**July-2021**
Report Issue Date	:	**06.08.2021**
Method Adopted	:	IS 9989-1981 Reaffirmed 2014
Report No	:	**ULR-TC532321000000545F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	01.07.2021	53.4	68.6	75	47.6	65.8	70
2	Near ATM	02.07.2021	51.7	66.2	75	50.9	64.1	70
3	Transit House	05.07.2021	52.6	64.5	75	48.4	59.3	70
4	CAAQMS Station	08.07.2021	49.1	65.9	75	49.3	63.7	70
5	Gunda Road	09.07.2021	48.2	59.7	75	47.8	55.2	70
6	Gunda Railway Station	13.07.2021	52.4	64.3	75	51.5	61.6	70
7	Bagging Shed	14.07.2021	53.3	66.4	75	49.7	57.8	70
8	Railway Siding	15.07.2021	55.6	68.5	75	52.2	62.5	70
9	4th Gate	21.07.2021	54.7	70.8	75	50.8	59.7	70
10	Bricks Plant	22.07.2021	51.8	65.1	75	48.6	61.2	70
11	Kempuhalla (Wagon Tippler)	23.07.2021	55.9	71.8	75	51.1	59.8	70
12	Danapura Bridge	26.07.2021	53.6	64.2	75	50.9	57.1	70
13	2nd Gate	27.07.2021	60.2	72.1	75	54.7	62.3	70
14	Project Store	28.07.2021	51.9	63.6	75	48.2	56.4	70
15	Dispatch (Truck Parking Area)	29.07.2021	56.7	65.0	75	54.3	58.7	70

INFERENCE	**As per CPCB Standards,** **Report Status: - Measured Values for the above parameters are within the limit.**

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

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ANNEXURE-21
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY22/RO38
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Noise Level Monitoring
Particulars of Sample Collected	:	Equinox-107
Month	:	**July-2021**
Report Issue Date	:	**06.08.2021**
Method Adopted	:	IS 9989-1981 Reaffirmed 2014
Report No	:	**ULR-TC532321000000616F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	**05.07.2021**	52.9	67.2	**75**	48.9	63.4	**70**
2	Near ATM	**06.07.2021**	53.4	65.9	**75**	49.2	65.7	**70**
3	Transit House	**07.07.2021**	51.6	63.5	**75**	51.3	57.3	**70**
4	CAAQMS Station	**10.07.2021**	50.8	64.1	**75**	48.7	62.1	**70**
5	Gunda Road	**16.07.2021**	52.7	61.7	**75**	46.9	54.9	**70**
6	Gunda Railway Station	**17.07.2021**	51.6	65.2	**75**	50.4	60.7	**70**
7	Bagging Shed	**19.07.2021**	55.8	64.9	**75**	47.5	56.8	**70**
8	Railway Siding	**20.07.2021**	54.9	69.1	**75**	51.8	63.2	**70**
9	4th Gate	**22.07.2021**	52.1	71.3	**75**	49.2	61.5	**70**
10	Bricks Plant	**26.07.2021**	53.8	67.4	**75**	47.6	62.4	**70**
11	Kempuhalla (Wagon Tippler)	**27.07.2021**	54.7	69.2	**75**	50.1	59.1	**70**
12	Danapura Bridge	**13.07.2021**	55.6	65.7	**75**	52.5	61.8	**70**
13	2nd Gate	**14.07.2021**	61.0	68.8	**75**	54.2	63.3	**70**
14	Project Store	**15.07.2021**	53.2	65.1	**75**	49.8	58.7	**70**
15	Dispatch (Truck Parking Area)	**30.07.2021**	55.5	69.6	**75**	52.6	60.1	**70**

INFERENCE	**As per CPCB Standards,** **Report Status: - Measured Values for the above parameters are within the limit.**

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-22
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Grab Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Ground Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000609F**

Sl. No	Parameters	Protocol	Unit	Results			Standards as per IS: 10500:2012	
				Sample Code				
				1915	1916	1917		
				GW1 (Danapur Village)	GW2 (Hanumana halli)	GW3 (Gelemmana Gudi)	Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2002 Platinum cobalt Method	Hazen	<5	<5	<5	5	15
2.	Conductivity	APHA 23rd Edition 2017 2510 B (Pg. No.2-54)	µS/cm	2300	2600	2500	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-65)	mg/L	1482	1686	1504	500	2000
4.	pH	APHA 23rd Edition 2017 4500 B (Pg. No.4-92 to 4-96)	-	7.35	7.23	7.15	6.5 to 8.5	NR
5.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-14)	NTU	0.3	0.2	0.2	1	5
6.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-66 to 2-67)	mg/L	Nil	Nil	Nil	-	-
7.	Sulphate as SO_4	APHA 23rd Edition 2012 4500 SO_4^{2-} E (Page No. 4-190)	mg/L	187.32	162.19	134.68	200	400
8.	phosphorusas P	APHA 23RD EDITION -4500-P D (Pg No. 4-163 to4-164)	mg/L	Nil	Nil	Nil	-	-
9.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg No.3-97to 3-98)	mg/L	471.28	589.47	345.2	-	-
10.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-87 to 3-88)	mg/L	0	0	0	-	-
11.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg No.3-84)	mg/L	148	132	156	75	200
12.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B MgBy calculation	mg/L	44.65	51.03	22.84	30	100
13.	Total Hardness as $CaCO_3$	APHA 23rdEdition 2017 2340 C (Page No. 2-46)	mg/L	562	540	484	200	600
14.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-72)	mg/L	294.26	436.28	437.55	250	1000
15.	Fluoride as F	APHA 23rdEdition 2012 4500 F- D (Page No. 4-87 to 4-88)	mg/L	0.90	1.43	1.16	1	1.5
16.	Nitrate Nitrogen as NO_3	APHA 23rd Edition 2012 4500 NO3 E (Pg No.4-125 to 4-127)	mg/L	37.16	45.60	38.2	45	NR

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ANNEXURE-22

17.	Total Alkalinity as $CaCO_3$	APHA 23rd Edition 2320 B (Pg No.2-35)	mg/L	**420**	**498**	**456**	200	600
18.	Acidity as $CaCO_3$	IS:3025 (part 22)-1986, RA-2014 Indicator method	mg/L	**Nil**	**Nil**	**Nil**	-	-
19.	Total Iron as Fe	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.09**	**0.24**	**0.10**	0.30	NR
20.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.01**	**<0.01**	**<0.01**	0.02	NR
21.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.076**	**0.091**	**0.102**	0.10	0.30
22.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.267**	**0.324**	**0.289**	0.05	1.50
23.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.1**	**<0.1**	**<0.1**	5	15
24.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.01**	**<0.01**	**<0.01**	0.01	NR
25.	Total Coli form count	APHA 23rd Edition 9222-B (p.no.9-66) Membrane filter technique	MPN/ 100 ml	**Ab**	**Ab**	**Ab**	Shall not be detectable in any 100 ml sample	-
26.	Escherichia coli count	APHA 23rd Edition 9222 (p.no.9-76) Membrane filter technique	MPN/ 100 ml	**Ab**	**Ab**	**Ab**	Shall not be detectable in any 100ml sample	-

Note: NR-No relaxation, **Ab-**Absent.

INFERENCE	**As per Standards IS: 10500:2012** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

Note:
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ANNEXURE-23
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Grab Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Ground Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000610F**

Sl. No	Parameters	Protocol	Unit	Results			Standards as per IS: 10500:2012	
				Sample Code				
				1918	1919	1920		
				GW4 (Mariyammana Halli)	GW5 (Transit House BW)	GW6 (RO Drinking Water)	Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 4)- 1984, RA-2002 Platinum cobalt Method	Hazen	<5	<5	<5	5	15
2.	Conductivity	APHA 23rd Edition 2017 2510 B (Pg. No.2-54)	µS/cm	2900	390	102	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-65)	mg/L	940	256	60	500	2000
4.	pH	APHA 23rd Edition 2017 4500 B (Pg. No.4-92 to 4-96)	-	7.32	8.00	7.80	6.5 to 8.5	NR
5.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-14)	NTU	0.3	0.1	0.0	1	5
6.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-66 to 2-67)	mg/L	Nil	Nil	Nil	-	-
7.	Sulphate as SO_4	APHA 23rd Edition 2012 4500 SO_4^{2-} E (Page No. 4-190)	mg/L	95.44	32.93	6.45	200	400
8.	Phosphorus as P	APHA 23RD EDITION -4500-P D (Pg No. 4-163 to4-164)	mg/L	Nil	Nil	Nil	-	-
9.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg No.3-97to 3-98)	mg/L	88.37	38.05	11.40	-	-
10.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-87 to 3-88)	mg/L	0	0	0	-	-
11.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg No.3-84)	mg/L	72	49.6	7.2	75	200
12.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation	mg/L	28.67	6.8	1.46	30	100
13.	Total Hardness as CaCO3	APHA 23rdEdition 2017 2340 C (Page No. 2-46)	mg/L	548	152	24	200	600
14.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-72)	mg/L	61.14	41.37	14.93	250	1000
15.	Fluoride as F	APHA 23rdEdition 2012 4500 F- D (Page No. 4-87 to 4-88)	mg/L	0.87	0.75	0.19	1	1.5
16.	Nitrate Nitrogen as NO3	APHA 23rd Edition 2012 4500 NO3 E (Pg No.4-125 to 4-127)	mg/L	36.60	17.63	1.40	45	NR

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Global Environment & Mining Services HOSPET

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ANNEXURE-23

17.	Total Alkalinity as $CaCO_3$	APHA 23rd Edition 2320 B (Pg No.2-35)	mg/L	**540**	**108**	**20**	200	600
18.	Acidity as $CaCO_3$	IS:3025 (part 22)-1986, RA-2014 Indicator method	mg/L	**Nil**	**Nil**	**Nil**	-	-
19.	Total Iron as Fe	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.12**	**0.08**	**0.07**	0.30	NR
20.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.01**	**<0.01**	**<0.01**	0.02	NR
21.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.141**	**0.113**	**0.052**	0.10	0.30
22.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**0.346**	**0.285**	**0.317**	0.05	1.50
23.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.1**	**<0.1**	**<0. 1**	5	15
24.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	**<0.01**	**<0.01**	**<0.01**	0.01	NR
25.	Total Coli form count	APHA 23rd Edition 9222-B (p.no.9-66) Membrane filter technique	MPN/ 100 ml	**Ab**	**Ab**	**Ab**	Shall not be detectable in any 100 ml sample	-
26.	Escherichia coli count	APHA 23rd Edition 9222 (p.no.9-76) Membrane filter technique	MPN/ 100 ml	**Ab**	**Ab**	**Ab**	Shall not be detectable in any 100ml sample	-

Note: NR-No relaxation, **Ab**-Absent, **BDL**-Below detectable Limit.

INFERENCE	**As per Standards IS: 10500:2012** **Report Status: - Measured Values for the above parameters are within the limit.**

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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Website : www.globalmining.in

ANNEXURE-24
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Composite Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	**Sewage Treatment Plant**
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000615F**

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	**1929**	**1930**	**1931**	
1.	pH	APHA 23rd Edition 2017 4500 B (Pg. No.4-92 to 4-96)	-	**7.66**	**7.73**	**7.64**	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-66 to 2-67)	mg/L	**8.52**	**6.15**	**7.98**	<100
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	**14**	**8**	**12**	30
4.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-19 to 5-20)	mg/L	**36.45**	**40.72**	**38.61**	50
5.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-40 to 5-41)	mg/L	**Nil**	**Nil**	**Nil**	10

Note: BDL-Below detectable Limit
INFERENCE: The Measured values are within the Limit.

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:
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ANNEXURE-25
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Composite Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Waste Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000614F**

Sl. No.	Parameters	Protocol	Unit	Results		As per KSPCB Std
				Neutralization Pit 70 MW Power Plant	Neutralization Pit 2x70 MW Power Plant	
			Sample Code	1927	1928	
1.	pH	APHA 23rd Edition 2017 4500 B (Pg No.4-92 to 4-96)	-	8.95	7.39	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg No.2-66 to 2-67)	mg/L	15.83	19.24	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg No.5-19 to 5-20)	mg/L	78.46	97.62	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg No.5-40 to 5-41)	mg/L	5.0	8.0	10

Note: BDL-Below detectable Limit
INFERENCE: The Measured values are within the Limit.

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:
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ANNEXURE-26
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Composite Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Surface Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000612F**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
			Sample code	1923	1924	
1.	pH	APHA 23RD Edition 4500 H+B (Pg No.4-95 to 4-99)	-	**7.80**	**7.85**	8.5
2.	Dissolved Oxygen	APHA 23RD Edition 4500 C (Pg No.4-146)	mg/L	**5.0**	**4.4**	5.0
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	APHA 23RD Edition 5210 B (Pg No.5-6 to 5-10)	mg/L	**4.0**	**3.0**	3.0
4.	Fluorides (as F)	APHA 23RD Edition 4500F- D (Pg No.4-90 to 4-91)	mg/L	**0.57**	**0.89**	1.5
5.	Color	APHA 23RD Edition 2120 B (Pg No.2-6 to 2-7)	Hazen	**10**	**12**	300
6.	Cyanides (as CN)	APHA 23RD Edition 4500 CN- (Pg No.4-45 to 4-46)	mg/L	**BDL**	**BDL**	0.05
7.	Arsenic (as As)	APHA-23 RD Edition-3114 –B (Pg No.3 -36 to 3-40)	mg/L	**<0.01**	**<0.01**	0.2
8.	Phenolic Compounds (as C_6H_5OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	**BDL**	**BDL**	0.005
9.	Chromium (as Cr^{6+})	APHA-23RD Edition-3500 Cr B (Pg No.3-71 to 3-72)	mg/L	**<0.001**	**<0.001**	1.0
10.	Anionic detergents (as MBAS)	APHA 23RD Edition 5540 C (Pg No.5-55 to 5-57)	mg/L	**BDL**	**BDL**	1.0
11.	**Total Coliform Organisms**					
	Total Coli forms	APHA 23 RD Edition 9221-C (Pg No.9-72 to 9-74)	MPN/100 ml,	**Absent**	**Absent**	500
	Escherichia coli or E. coli	APHA 23 RD Edition 9221-F (Pg No.9-78 to 9-79)	MPN/100 ml,	**Absent**	**Absent**	-

Note: BDL-Below detectable Limit
INFERENCE: The Measured values are within the Limit.

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services HOSPET

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ANNEXURE-27
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Composite Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Surface Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000611F**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Tungabhadra dam Upstream	Tungabhadra dam Downstream	
			Sample Code	1921	1922	
1.	pH	APHA 23RD Edition 4500 H+ B (Pg No.4-95 to 4-99)	-	7.98	7.35	8.5
2.	Dissolved Oxygen	APHA 23RD Edition 4500 C (Pg No.4-146)	mg/L	4.2	4.7	5.0
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	APHA 23RD Edition 5210 B (Pg No.5-6 to 5-10)	mg/L	Nil	Nil	3.0
4.	Fluorides (as F)	APHA 23RD Edition 4500F- D (Pg No.4-90 to 4-91)	mg/L	0.63	0.72	1.5
5.	Color	APHA 23RD Edition 2120 B (Pg No.2-6 to 2-7)	Hazen	BDL	BDL	300
6.	Cyanides (as CN)	APHA 23RD Edition 4500 CN- (Pg No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
7.	Arsenic (as As)	APHA-23 RD Edition-3114 –B (Pg No.3 -36 to 3-40)	mg/L	<0.01	<0.01	0.2
8.	Phenolic Compounds (as C_6H_5OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	0.005
9.	Chromium (as Cr^{6+})	APHA-23RD Edition-3500 Cr B (Pg No.3-71 to 3-72)	mg/L	<0.001	<0.001	1.0
10.	Anionic detergents (as MBAS)	APHA 23RD Edition 5540 C (Pg No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
11.	**Total Coliform Organisms,**					
	Total Coli forms	APHA 23RD Edition 9221-C (Pg No.9-72 to 9-74)	MPN/ 100 ml,	Absent	Absent	500
	Escherichia coli or E. coli	APHA 23RD Edition 9221-F (Pg No.9-78 to 9-79)	MPN/ 100 ml,	Absent	Absent	-

Note: BDL-Below detectable Limit
INFERENCE: the measured values are within the Limit

Analysed By
Mallikarjun S
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Global Environment & Mining Services ★ HOSPET

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ANNEXURE-28
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY22/RO38
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Composite Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Surface Water
9	Date of Sampling	:	22.07.2021
10	Sample Received	:	22.07.2021
11	Date of Analysis	:	22.07.2021
12	Date of Analysis Completion	:	28.07.2021
13	Report Issue Date	:	**06.08.2021**
14	Report Number	:	**ULR-TC532321000000613F**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
			Sample code	1925	1926	
1.	pH	APHA 23RD Edition 4500 H+ B (Pg No.4-95 to 4-99)	-	8.21	7.93	8.5
2.	Dissolved Oxygen	APHA 23RD Edition 4500 C (Pg No.4-146)	mg/L	4.6	4.8	5.0
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	APHA 23RD Edition 5210 B (Pg No.5-6 to 5-10)	mg/L	4	2.5	3.0
4.	Fluorides (as F)	APHA 23RD Edition 4500F- D (Pg No.4-90 to 4-91)	mg/L	0.87	1.06	1.5
5.	Color	APHA 23RD Edition 2120 B (Pg No.2-6 to 2-7)	Hazen	BDL	BDL	300
6.	Cyanides (as CN)	APHA 23RD Edition 4500 CN- (Pg No.4-45 to 4-46)	mg/L	<0.01	<0.01	0.05
7.	Arsenic (as As)	APHA-23 RD Edition-3114 –B (Pg No.3 -36 to 3-40)	mg/L	BDL	BDL	0.2
8.	Phenolic Compounds (as C_6H_5OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	<0.001	<0.001	0.005
9.	Chromium (as Cr^{6+})	APHA-23RD Edition-3500 Cr B (Pg No.3-71 to 3-72)	mg/L	BDL	BDL	1.0
10.	Anionic detergents (as MBAS)	APHA 23RD Edition 5540 C (Pg No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
11.	**Total Coliform Organisms,**					
	Total Coli forms	APHA 23RD Edition 9221-C (Pg No.9-72 to 9-74)	MPN/100 ml,	Absent	Absent	500
	Escherichia coli or E. coli	APHA 23RD Edition 9221-F (Pg No.9-78 to 9-79)	MPN/100 ml,	Absent	Absent	-

Note: BDL-Below detectable Limit
INFERENCE: The Measured values are within the Limit

Analysed By
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Authorised Signatory
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Note:
1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
2. Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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