

## **ENVIRONMENTAL MONITORING REPORT**



*at*

**Danapur Village, Hosapete Taluk,  
Vijayanagara District, PIN-583222, Karnataka.**

**Stage – I**

**SEPTEMBER - 2022**

**Prepared by**



**GLOBAL ENVIRONMENT & MINING SERVICES**

**NABL & MOEF RECOGNIZED LABORATORY**

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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, Hosapete*, 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, Hosapete*, 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:04.10.2022**

  
**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 tonnes/month
5	Rolling Mill (TMT rods)	9000 tonnes/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 **SEPTEMBER -2022**. 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 PM<sub>10</sub>, Particulate Matter (size less than 2.5 $\mu$ m) PM<sub>2.5</sub>.

#### **2.2.1 PARTICULATE MATTER (PM<sub>10</sub>)(size less than 10 $\mu$ m).**

##### **Purpose**

The purpose of this protocol is to provide guidelines for monitoring and analysis of Particulate Matter PM<sub>10</sub> in ambient air

**Reference Method:** IS 5182 Part 23 Method of Measurement of Air Pollution: Respirable Suspended Particulate Matter (PM<sub>10</sub>) cyclonic flow technique.

##### **Principle of the method**

Air is drawn through a size-selective inlet and through a 20.3X25.4 cm (8X10 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 PM<sub>10</sub> 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/m<sup>3</sup>. 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 (SO<sub>2</sub>).

**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 dichlorosulphitomercurate 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 sulphononic 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<sub>2</sub>):

#### 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 (NO<sub>2</sub>) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO<sub>2</sub>) 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 (NH<sub>3</sub>)**

### **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 (1.2m<sup>3</sup>/min) sampling method capable of detecting sub.ng/m<sup>3</sup> concentration of PAH in 24 hours sample (i.e., collected in 3 shifts of 8 hour each with 480 m<sup>3</sup> 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 2 $\mu$ l 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/ $\mu$ l 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/ $\mu$ l 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 (CS<sub>2</sub>). The substances desorbed in the CS<sub>2</sub> 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 (FID) with fused silica capillary columns having a length of 25 m or more, an internal diameter of 320  $\mu$ m or below and with a stationary phase film thickness less than 1.5  $\mu$ m 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 suitable 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 litre 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 1.2 to 1.5 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, 1-2 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 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% H<sub>2</sub>O<sub>2</sub> and 0.1N NaOH solution respectively and the analysis of the pollutants were done as per the Indian standard procedures prescribed by CPCB/BIS. Stack emission level was monitored as per the statutory requirement on twice in a month.

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

**2.7 DATA ANALYSIS**

**2.7.1 BUFFERZONE AMBIENT AIR QUALITY STATUS**

**Danapur Village (A1)**

At this location, average of PM10, PM2.5, SO<sub>2</sub>, NO<sub>2</sub> values Average 60.78, 17.06, 10.79 & 13.32 µg/m<sup>3</sup> 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, SO<sub>2</sub>, NO<sub>2</sub> values Average 58.16, 16.28, 9.47 & 12.46 µg/m<sup>3</sup> 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, SO<sub>2</sub>, NO<sub>2</sub> values Average 56.98, 15.92, 9.02 & 11.65 µg/m<sup>3</sup> 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, SO<sub>2</sub>, NO<sub>2</sub> values Average 52.35, 14.72, 7.53 & 10.08 µg/m<sup>3</sup> respectively. 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, SO<sub>2</sub>, NO<sub>2</sub> values Average 50.18, 14.15, 7.68 & 10.39 µg/m<sup>3</sup> respectively. 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, SO<sub>2</sub>, NO<sub>2</sub> values Average 54.47, 15.26, 8.24 & 10.90 µg/m<sup>3</sup> respectively. 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 104.02 $\mu\text{g}/\text{m}^3$ , maximum value 1795.76 $\mu\text{g}/\text{m}^3$ , and average value 788.59 $\mu\text{g}/\text{m}^3$ . The Fugitive air quality 1<sup>st</sup> & 2<sup>nd</sup> 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 ( $\text{mg}/\text{Nm}^3$ ) 1st and 2nd Fort Night Minimum Value 10.50  $\text{mg}/\text{Nm}^3$ , Maximum Value 46.30  $\text{mg}/\text{Nm}^3$  & Average Value 23.05  $\text{mg}/\text{Nm}^3$ . 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 41.2 to 67.9dB (A) and 37.6 to 64.50 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-33**.

## 3.2 CONCLUSION

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



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TC-5323

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/FY23/R073  
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 : SEPTEMBER-2022  
Location : A1-Danapur Village  
Duration of Monitoring : 24 Hour  
Report Issued Date : 04.10.2022  
Report Number : ULR-TC53232200000688F

### RESULTS

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
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 Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2022	06.09.2022	2415	59.81	100	16.70	60	10.07	80	13.58	80
06.09.2022	07.09.2022	2441	65.57		18.70		8.30		9.89	
12.09.2022	13.09.2022	2531	56.90		15.97		11.74		15.03	
13.09.2022	14.09.2022	2555	69.59		19.64		10.85		11.34	
19.09.2022	20.09.2022	2715	52.69		14.25		9.52		15.96	
20.09.2022	21.09.2022	2743	49.37		13.67		9.96		10.81	
26.09.2022	27.09.2022	2856	69.60		19.98		12.07		17.28	
27.09.2022	28.09.2022	2875	62.20		17.53		13.84		12.66	
Average			60.78		17.06		10.79		13.32	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / AAS-217 BL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 14-A-142	PM2.5/PM10 Sampler / 158-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

Analysed By  
Rukmini G  
Chemist

Verified By  
B P Lingaraj  
Chemist



### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15 days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
- 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.
- Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey





## GLOBAL ENVIRONMENT & MINING SERVICES

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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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A1-Danapur Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.09.2022	2415	0.12	4.0
2	06.09.2022	2441	0.16	
3	12.09.2022	2531	0.11	
4	13.09.2022	2555	0.13	
5	19.09.2022	2715	0.15	
6	20.09.2022	2743	0.12	
7	26.09.2022	2856	0.09	
8	27.09.2022	2875	0.08	

**Note:** CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

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

*Rukmini G.*  
 Analysed By  
 Rukmini G  
 Chemist

*B P Lingaraja*  
 Verified By  
 B P Lingaraja  
 Chemist



- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey



# **GLOBAL ENVIRONMENT & MINING SERVICES**

(Consulting Engineers, Mine designers, Geologist & Surveyors)  
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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/FY23/R073  
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 : SEPTEMBER-2022  
Location : A2-Mariyammanahalli Village  
Duration of Monitoring : 24 Hour  
Report Issued Date : 04.10.2022  
Report Number : ULR-TC532322000000689F

### **RESULTS**

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
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 Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2022	06.09.2022	2416	58.87	100	16.71	60	10.19	80	12.27	80
06.09.2022	07.09.2022	2442	66.66		18.96		6.64		9.36	
12.09.2022	13.09.2022	2532	48.79		13.76		11.07		12.13	
13.09.2022	14.09.2022	2556	65.89		18.03		8.41		13.85	
19.09.2022	20.09.2022	2716	55.17		15.72		10.96		11.34	
20.09.2022	21.09.2022	2744	69.28		19.29		7.53		13.72	
26.09.2022	27.09.2022	2857	51.33		14.41		11.74		15.03	
27.09.2022	28.09.2022	2876	49.31		13.38		9.19		10.42	
Average			58.16		16.28		9.47		12.46	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / APM -460BL	Enviro instruments / EI-133
3	Serial No	R.D.S./330-DTF-2005	PM2.5 /PM10 Sampler / 159-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

*Analysed By*  
**Rukmini G**  
Chemist

*Verified By*  
**B P Lingaraja**  
Chemist



### **Note:**

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
- 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.
- Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
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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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A2-Mariyammanahalli Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.09.2022	2416	0.13	4.0
2	06.09.2022	2442	0.10	
3	12.09.2022	2532	0.21	
4	13.09.2022	2556	0.19	
5	19.09.2022	2716	0.12	
6	20.09.2022	2744	0.15	
7	26.09.2022	2857	0.11	
8	27.09.2022	2876	0.09	

Note: CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

Sl. No.	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

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

*Rukmini G*  
 Analysed By  
 Rukmini G  
 Chemist

*B P Lingaraj*  
 Verified By  
 B P Lingaraj  
 Chemist



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TC-5323

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/FY23/R073  
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 : SEPTEMBER-2022  
Location : A3-Hanumanahalli Village  
Duration of Monitoring : 24 Hour  
Report Issued Date : 04.10.2022  
Report Number : ULR-TC532322000000690F

#### RESULTS

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
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 Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2022	06.09.2022	2417	67.40	100	18.88	60	9.19	80	13.06	80
06.09.2022	07.09.2022	2443	56.99		15.84		7.53		9.63	
12.09.2022	13.09.2022	2533	61.27		17.19		11.85		13.98	
13.09.2022	14.09.2022	2557	53.04		14.98		9.52		12.66	
19.09.2022	20.09.2022	2717	48.82		13.35		6.75		9.76	
20.09.2022	21.09.2022	2745	59.91		16.86		8.97		10.95	
26.09.2022	27.09.2022	2858	45.97		12.82		8.30		11.01	
27.09.2022	28.09.2022	2877	62.42		17.40		10.07		12.13	
Average			56.98		15.92		9.02		11.65	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Greentech instruments / GTI -151	Enviro instruments / EI-133
3	Serial No	R.D.S./242-DTC-2020	PM2.5 / PM10 Sampler / 160-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

Analysed By  
Rukmini G  
Chemist

Verified By  
B P Lingaraja  
Chemist



#### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A3-Hanumanahalli Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.09.2022	2417	0.18	4.0
2	06.09.2022	2443	0.23	
3	12.09.2022	2533	0.21	
4	13.09.2022	2557	0.14	
5	19.09.2022	2717	0.11	
6	20.09.2022	2745	0.15	
7	26.09.2022	2858	0.12	
8	27.09.2022	2877	0.10	

Note: CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

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

*Rug B.*  
 Analysed By  
 Rukmini G  
 Chemist

*Ruga*  
 Verified By  
 B P Lingaraja  
 Chemist



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Website : www.globalmining.in



TC-5323

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/FY23/R073  
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 : SEPTEMBER-2022  
Location : A4-Galemmanagudi Village  
Duration of Monitoring : 24 Hour  
Report Issue Date : 04.10.2022  
Report Number : ULR-TC532322000000708F

### RESULTS

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
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 Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.09.2022	08.09.2022	2464	61.07	100	17.62	60	10.41	80	12.00	80
08.09.2022	09.09.2022	2483	48.44		13.73		6.64		9.63	
14.09.2022	15.09.2022	2569	58.69		16.52		7.86		10.81	
15.09.2022	16.09.2022	2600	65.05		18.17		5.65		8.44	
21.09.2022	22.09.2022	2777	45.93		12.49		6.86		9.76	
22.09.2022	23.09.2022	2807	37.45		10.50		6.20		9.36	
28.09.2022	29.09.2022	2898	54.10		15.14		5.65		8.84	
29.09.2022	30.09.2022	2911	48.05		13.60		10.96		11.80	
Average			52.35		14.72		7.53		10.08	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / AAS-217 BL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 14-A-142	PM2.5 / PM10 Sampler / 158-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

Analysed By  
Rukmini G  
Chemist

Verified By  
B P Lingaraj  
Chemist

### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15 days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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Website : www.globalmining.in

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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A4-Galemmanagudi Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	07.09.2022	2464	0.16	4.0
2	08.09.2022	2483	0.12	
3	14.09.2022	2569	0.24	
4	15.09.2022	2600	0.22	
5	21.09.2022	2777	0.18	
6	22.09.2022	2807	0.12	
7	28.09.2022	2898	0.08	
8	29.09.2022	2911	0.11	

Note: CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

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

*Rukmini G*  
 Analysed By  
 Rukmini G  
 Chemist

*B P Lingaraja*  
 Verified By  
 B P Lingaraja  
 Chemist



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Website : www.globalmining.in



TC-5323

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/FY23/R073  
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 : SEPTEMBER-2022  
Location : A5-Gunda Village  
Duration of Monitoring : 24 Hour  
Report Issue Date : 04.10.2022  
Report Number : ULR-TC532322000000709F

### 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
07.09.2022	08.09.2022	2465	58.85	100	16.54	60	8.52	80	11.47	80
08.09.2022	09.09.2022	2484	48.08		13.29		7.64		9.89	
14.09.2022	15.09.2022	2570	37.84		10.84		9.19		12.27	
15.09.2022	16.09.2022	2601	54.12		15.15		5.20		8.97	
21.09.2022	22.09.2022	2778	45.38		12.81		8.64		10.68	
22.09.2022	23.09.2022	2808	58.21		16.43		5.54		9.76	
28.09.2022	29.09.2022	2899	39.38		11.41		7.64		8.70	
29.09.2022	30.09.2022	2912	59.61		16.71		9.08		11.34	
Average			50.18		14.15		7.68		10.39	

SL.NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / APM -460 BL	Enviro instruments / EI-133
3	Serial No	R.D.S./330-DTF-2005	PM2.5 /PM10 Sampler / 159-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

Analysed By  
Rukmini G  
Chemist

Verified By  
B P Lingaraja  
Chemist

#### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15 Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A5-Gunda Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	07.09.2022	2465	<0.01	4.0
2	08.09.2022	2484	<0.01	
3	14.09.2022	2570	0.12	
4	15.09.2022	2601	<0.01	
5	21.09.2022	2778	<0.01	
6	22.09.2022	2808	0.11	
7	28.09.2022	2899	<0.01	
8	29.09.2022	2912	<0.01	

Note: CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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*Rukmini G*  
 Analysed By  
 Rukmini G  
 Chemist

*Linga*  
 Verified By  
 B P Lingaraja  
 Chemist



- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey



# **GLOBAL ENVIRONMENT & MINING SERVICES**

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TC-5323

**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/FY23/R073  
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 : **SEPTEMBER-2022**  
Location : **A6-Gunda Tanda Village**  
Duration of Monitoring : 24 Hour  
Report Issue Date : **04.10.2022**  
Report Number : **ULR-TC532322000000710F**

### **RESULTS**

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
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
07.09.2022	08.09.2022	2466	58.45	100	16.43	60	9.15	80	11.34	80
08.09.2022	09.09.2022	2485	47.37		13.47		8.20		10.29	
14.09.2022	15.09.2022	2571	67.66		18.98		9.86		12.79	
15.09.2022	16.09.2022	2602	56.84		15.87		5.58		8.57	
21.09.2022	22.09.2022	2779	39.48		11.35		9.26		12.00	
22.09.2022	23.09.2022	2809	62.47		17.08		5.94		8.84	
28.09.2022	29.09.2022	2900	53.82		15.26		8.20		10.81	
29.09.2022	30.09.2022	2913	49.63		13.64		9.74		12.58	
Average			54.47		15.26		8.24		10.90	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Greentech instruments / GTI-151	Enviro instruments / EI-133
3	Serial No	R.D.S./242-DTC-2020	PM2.5 / PM10 Sampler / 160-K-20
4	Calibration Date	01.04.2022	07.03.2022
5	Calibration Due Date	31.03.2023	06.03.2023

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

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B.P. Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



#### **Note:**

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
- 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.
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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/FY23/R073  
 Sample collected by : Global Environment & Mining Services  
 Discipline : Chemical  
 Group : Atmospheric Pollution  
 Sample Type : Ambient Air Quality Monitoring  
 Particulars of Sample Collected : CO Analyser  
 Month : SEPTEMBER-2022  
 Location : A6-Gunda Tanda Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 04.10.2022

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	07.09.2022	2466	0.13	4.0
2	08.09.2022	2485	<0.01	
3	14.09.2022	2571	<0.01	
4	15.09.2022	2602	0.08	
5	21.09.2022	2779	<0.01	
6	22.09.2022	2809	0.09	
7	28.09.2022	2900	<0.01	
8	29.09.2022	2913	<0.01	

Note: CO - GEMS/SOP/86/as per CO Analyzer Manual (1 Hour)

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	09.07.2022
5	Calibration Due Date	08.07.2023

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

*Rukmini G.*  
 Analysed By  
 Rukmini G  
 Chemist

*Linga*  
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 B P Lingaraja  
 Chemist



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TC-5323

**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/FY23/RO73
- 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 : **SEPTEMBER-2022(1<sup>st</sup> Fort Night)**
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Method adopted : IS 5182 (Part 4): 1999 RA 2014
- 9 Report Issued Date : **04.10.2022**
- 10 Report Number : **ULR-TC532322000000713F**

### **RESULTS**

Sl. No.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM ( $\mu\text{g}/\text{m}^3$ )	Standard
<b>I. Beneficiation Plant-1</b>						
1.	Main Canteen	2472	07.09.2022	08.09.2022	553.74	2000
2.	Main Crusher	2470	07.09.2022	08.09.2022	428.53	2000
3.	Iron Ore Screen	2471	07.09.2022	08.09.2022	520.97	2000
<b>II. Pellet Plant-I</b>						
4.	Near Pellet Plant	2473	07.09.2022	08.09.2022	1199.70	2000
5.	TG Zero Meter	2474	07.09.2022	08.09.2022	1012.98	2000
6.	Pellet Stock Yard	2489	08.09.2022	09.09.2022	1457.00	2000
<b>III. Sponge Iron Division-1</b>						
7.	Control Room SID-1	2517	10.09.2022	11.09.2022	627.38	2000
8.	Near Product bin	2518	10.09.2022	11.09.2022	982.71	2000
9.	Coal Feeding Area	2519	10.09.2022	11.09.2022	335.70	2000
<b>IV. Induction Furnace &amp; Rolling Mill</b>						
10.	IF Office	2490	08.09.2022	09.09.2022	495.88	2000
11.	TMT Stock Yard	2505	09.09.2022	10.09.2022	463.02	2000
12.	RML Office	2506	09.09.2022	10.09.2022	718.10	2000
<b>V. Power Plant 25 MW</b>						
13.	25 MW ESP	2507	09.09.2022	10.09.2022	716.62	2000
14.	25 MW ACC	2508	09.09.2022	10.09.2022	218.32	2000
<b>VI. Site Services</b>						
15.	PGP- coal handling system	2491	08.09.2022	09.09.2022	218.02	2000
16.	IF Slag Crusher	2492	08.09.2022	09.09.2022	552.58	2000
17.	Main Gate	2520	10.09.2022	11.09.2022	180.32	2000
18.	Fly ash Dump	2451	06.09.2022	07.09.2022	104.02	2000

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

SL NO	INSTRUMENT DETAILS	GEMS-01	GEMS-02	GEMS-03	GEMS-04	GEMS-05
1	Instrument Name	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler
2	Make & Model	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151
3	Serial No	RDS / 241-DTC-2020	RDS / 243-DTL-2020	RDS / 244-DTL-2020	RDS / 193-DTH-2019	RDS / 197-DTH-2019
4	Calibration Date	01.04.2022	01.04.2022	01.04.2022	01.04.2022	01.04.2022
5	Calibration Due Date	31.03.2023	31.03.2023	31.03.2023	31.03.2023	31.03.2023

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

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TC-5323

**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/FY23/R073
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	:	<b>SEPTEMBER-2022(2<sup>nd</sup> Fort Night)</b>
6	Discipline	:	Chemical
7	Group	:	Atmospheric Pollution
8	Method adopted	:	IS 5182 (Part 4): 1999 RA 2014
9	Report Issued Date	:	<b>04.10.2022</b>
10	Report Number	:	<b>ULR-TC532322000000836F</b>

### **RESULTS**

Sl. NO.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM ( $\mu\text{g}/\text{m}^3$ )	Standard
<b>I. Beneficiation Plant-1</b>						
1.	Main Canteen	2827	23.09.2022	24.09.2022	860.43	2000
2.	Main Crusher	2828	23.09.2022	24.09.2022	1623.57	2000
3.	Iron Ore Screen	2826	23.09.2022	24.09.2022	1029.16	2000
<b>II. Pellet Plant-I</b>						
4.	Near Pellet Plant	2841	24.09.2022	25.09.2022	823.45	2000
5.	TG Zero Meter	2842	24.09.2022	25.09.2022	1415.49	2000
6.	Pellet Stock Yard	2843	24.09.2022	25.09.2022	1795.76	2000
<b>IV. Sponge Iron Division-1</b>						
7.	Control Room SID-I	2881	27.09.2022	28.09.2022	930.82	2000
8.	Near Product bin	2883	27.09.2022	28.09.2022	794.64	2000
9.	Coal Feeding Area	2882	27.09.2022	28.09.2022	1425.62	2000
<b>III. Induction Furnace &amp; Rolling Mill</b>						
10.	IF Office	2862	26.09.2022	27.09.2022	529.44	2000
11.	TMT Stock Yard	2863	26.09.2022	27.09.2022	1008.51	2000
12.	RML Office	2864	26.09.2022	27.09.2022	760.56	2000
<b>V. Power Plant 25 MW</b>						
13.	25 MW ESP	2865	26.09.2022	27.09.2022	616.45	2000
14.	25 MW ACC	2904	28.09.2022	29.09.2022	286.04	2000
<b>VI. Site Services</b>						
15.	PGP- Coal handling system	2844	24.09.2022	25.09.2022	1085.36	2000
16.	IF Slag Crusher	2884	27.09.2022	28.09.2022	1370.46	2000
17.	Main Gate	2905	28.09.2022	29.09.2022	417.36	2000
18.	Fly ash Dump	2816	22.09.2022	23.09.2022	830.37	2000

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

Sl NO	INSTRUMENT DETAILS	GEMS-01	GEMS-02	GEMS-03	GEMS-04	GEMS-05
1	Instrument Name	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler
2	Make & Model	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151
3	Serial No	RDS / 241-DTC-2020	RDS / 243-DTL-2020	RDS / 244-DTL-2020	RDS / 193-DTH-2019	RDS / 197-DTH-2019
4	Calibration Date	01.04.2022	01.04.2022	01.04.2022	01.04.2022	01.04.2022
5	Calibration Due Date	31.03.2023	31.03.2023	31.03.2023	31.03.2023	31.03.2023

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Ping*  
Verified By  
B P Lingaraja  
Chemist



#### **Note:**

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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/FY23/RO73
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Sampling Location : Pellet Plant-1 ESP
- 10 Month of Sampling : SEPTEMBER-2022
- 11 Date of Sample Received : 02.09.2022 & 19.09.2022
- 12 Date of Sample Analysis : 03.09.2022 & 20.09.2022
- 13 Date Sample Analysis Completion : 05.09.2022 & 21.09.2022
- 14 Report Issued Date : 04.10.2022
- 15 Report Number : ULR-TC532322000000678F

### Stack Details

- 1 Fuel Used : Coal & furnace oil
- 2 Stack Height (mtr) : 100.0
- 3 Stack Diameter (mtr) : 4.4

### Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
	Date of Monitoring Sample Code			02.09.2022	19.09.2022	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	2384	2718	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	28	28	-
3	Velocity of Fuel Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	121	116	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	6.61	6.22	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	361872	340521	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	272800	260450	-
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	34.20	42.40	150
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	48.64	61.52	100
9	Carbon Monoxide	GEMS/SOP/69	%	45.10	38.95	50
				0.027	0.022	-

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

Verified By  
B P Lingaraj  
Chemist



### Note:

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2. Water Samples will be destroyed after 15 days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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TC-5323

**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/FY23/RO73  |
| 3  | Sample collected by             | : | GLOBAL Environment & Mining Services, Hosapete                                |
| 4  | Particulars of sample collected | : | Vayubodhan Stack sampler/ VSS-1<br>Sl. No: Stack Monitoring Kit/ 304-DTB-2007 |
| 5  | Instrument Details              | : | Calibration Date: 07.02.2022<br>Calibration Due Date: 06.02.2023              |
| 6  | Discipline                      | : | Chemical  |
| 7  | Group                           | : | Atmospheric Pollution   |
| 8  | Sample Type                     | : | Stack Monitoring  |
| 9  | Sampling Location               | : | 2X100 TPD Sponge iron plant ESP   |
| 10 | Month of Sampling               | : | SEPTEMBER-2022  |
| 11 | Date of Sample Received         | : | 09.09.2022 & 24.09.2022   |
| 12 | Date of Sample Analysis         | : | 10.09.2022 & 26.09.2022   |
| 13 | Date Sample Analysis Completion | : | 12.09.2022 & 26.09.2022   |
| 14 | Report Issued Date              | : | 04.10.2022  |
| 15 | Report Number                   | : | ULR-TC532322000000723F  |

### Stack Details

- |   |                      |      |
|---|----------------------|------|
| 1 | Fuel Used            | Coal |
| 2 | Stack Height (mtr)   | 60.0 |
| 3 | Stack Diameter (mtr) | 2.00 |

### Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
				09.09.2022	24.09.2022	
	Date of Monitoring					
	Sample Code			2502	2838	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	28	27	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	168	165	-
3	Velocity of Fuel Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	8.07	7.85	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	91281	88793	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	61301	60364	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	31.40	46.30	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	41.50	75.80	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	51.25	45.10	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.166	0.152	-

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

*Rukmini G*  
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Rukmini G  
Chemist

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B P Lingaraja  
Chemist



### Note:

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# GLOBAL ENVIRONMENT & MINING SERVICES

(Consulting Engineers, Mine designers, Geologist & Surveyors)  
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TC-5323

**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/FY23/R073
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhan Stack sampler/ VSS-1 Sl. No: Stack Monitoring Kit/ 304-DTB-2007
5	Instrument Details	: Calibration Date: 07.02.2022 Calibration Due Date: 06.02.2023
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: Induction Furnace1& 2
10	Month of Sampling	: SEPTEMBER-2022
11	Date of Sample Received	: -
12	Date of Sample Analysis	: -
13	Date Sample Analysis Completion	: -
14	Report Issued Date	: 04.10.2022
15	Report Number	: -

## Stack Details

1	Fuel 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
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
	Date of Monitoring Sample Code			-	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	Under Maintenance		-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C			-
3	Velocity of Fuel Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec			-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr			-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr			-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>			100
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>			NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			NS
9	Carbon Monoxide	GEMS/SOP/69	%			-

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

Verified By  
B P Lingaraja  
Chemist



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TC-5323

**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/FY23/R073
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl.No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Sampling Location : **Rolling mill reheating furnace**
- 10 Month of Sampling : **SEPTEMBER-2022**
- 11 Date of Sample Received : 08.09.2022
- 12 Date of Sample Analysis : 09.09.2022
- 13 Date Sample Analysis Completion : 10.09.2022
- 14 Report Issued Date : 04.10.2022
- 15 Report Number : **ULR-TC532322000000718F**

### Stack Details

- 1 Fuel 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 Sample Code			08.09.2022	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	27	-	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	372	-	-
3	Velocity of Fuel Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec	9.01	-	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	16306	-	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	7498	-	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	19.20	Shut Down	100
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	194.48		270
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	63.55		50
9	Carbon Monoxide	GEMS/SOP/69	%	0.492		-

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

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



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TC-5323

**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/FY23/R073
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhan Stack sampler/ VSS-1 Sl. No: Stack Monitoring Kit/ 304-DTB-2007
5	Instrument Details	:	Calibration Date: 07.02.2022 Calibration Due Date: 06.02.2023
6	Discipline	:	Chemical
7	Group	:	Atmospheric Pollution
8	Sample Type	:	Stack Monitoring
9	Sampling Location	:	<b>AFBC Boiler ESP (25 MW Power Plant)</b>
10	Month of Sampling	:	<b>SEPTEMBER-2022</b>
11	Date of Sample Received	:	-
12	Date of Sample Analysis	:	-
13	Date Sample Analysis Completion	:	-
14	Report Issued Date	:	<b>04.10.2022</b>
15	Report Number	:	

### **Stack Details**

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

### **Emission Details**

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
	Date of Monitoring Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	Shutdown		-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C			-
3	Velocity of Fuel Gas	IS: 11255 (Part 1) - 1985 (RA 2014)	m/sec			-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr			-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr			-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>			50
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>			600
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			300
9	Carbon Monoxide	GEMS/SOP/69	%			-

Note: NS- Not Specified. RA: Reaffirmed,

Verified By  
B P Lingaraj  
Chemist



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TC-5323

**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/FY23/RO73
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : **SEPTEMBER-2022 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 12.09.2022 & 13.09.2022
- 11 Date of Sample Analysis : 13.09.2022 & 14.09.2022
- 12 Date Sample Analysis Completion : 14.09.2022 & 15.09.2022
- 13 Report Issued Date : 04.10.2022
- 14 Report Number : **ULR-TC532322000000734F**

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Beneficiation Plant</b>											
1	Ore Crushing & Screening	12.09.2022	2534	-	28	37	5.48	30	0.40	15.80	50
2	Ore Fines Hopper Bottom	12.09.2022	2535	-	27	38	5.07	30	0.40	13.50	50
3	Main Crusher (RMHS)	13.09.2022	2558	-	28	37	5.61	25	0.50	11.20	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
1	Ore Crushing & Screening	2479	2362	-
2	Ore Fines Hopper Bottom	2294	2187	-
3	Main Crusher (RMHS)	3966	3781	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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)

*Rukmini G*  
**Analysed By**  
Rukmini G  
Chemist

*Linga*  
**Verified By**  
B P Lingaraja  
Chemist



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TC-5323

**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/FY23/RO73
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : **SEPTEMBER-2022 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 02.09.2022 & 03.09.2022
- 11 Date of Sample Analysis : 03.09.2022 & 05.09.2022
- 12 Date Sample Analysis Completion : 03.09.2022 & 05.09.2022
- 13 Report Issued Date : **04.10.2022**
- 14 Report Number : **ULR-TC532322000000679F**

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Pellet Plant</b>											
4	Mixed Area	03.09.2022	2399	---	29	40	5.44	3.0	0.30	21.80	50
5	Pellet Discharge Point	02.09.2022	2385	---	30	48	6.35	7.0	0.50	29.60	50
6	Product Transfer Point	03.09.2022	2400	---	29	38	5.66	6.5	0.60	18.70	50

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
4	Mixed Area	1384	1313	-
5	Pellet Discharge Point	4489	4149	-
6	Product Transfer Point	5762	5490	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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)

Verified By  
**B P Lingaraja**  
Chemist



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TC-5323

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/FY23/RO73
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : SEPTEMBER-2022 (1<sup>st</sup> Fort Night)
- 10 Date of Sample Received : 09.09.2022 & 10.09.2022
- 11 Date of Sample Analysis : 10.09.2022 & 12.09.2022
- 12 Date Sample Analysis Completion : 10.09.2022 & 12.09.2022
- 13 Report Issued Date : 04.10.2022
- 14 Report Number : ULR-TC532322000000724F

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
Chimneys attached to Bag Filter (De dusting Units)											
2 X 100 TPD Sponge Iron Kiln 1 & 2											
7	Cooler Discharge -1	09.09.2022	2503	---	29	37	5.30	30	1.20	23.80	50
8	Cooler Discharge -2	09.09.2022	2504	---	28	38	4.93	30	1.20	27.20	50
9	Coal Crusher	-	-	---	-	-	-	30	1.20	-	50
10	Production Separation Bin (PSB)	10.09.2022	2515	---	27	37	5.33	30	1.20	21.90	50
11	Intermediate Bin	10.09.2022	2516	---	28	38	5.69	30	1.20	17.60	50

Sl. No	2 X 100 TPD Sponge Iron Kiln 1 & 2	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
7	Cooler Discharge -1	21582	20577	-
8	Cooler Discharge -2	20075	19054	-
9	Coal Crusher	-	-	-
10	Production Separation Bin (PSB)	22518	21550	-
11	Intermediate Bin	23170	22079	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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  
Rukmini G  
Chemist

Verified By  
B P Lingaraja  
Chemist



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TC-5323

**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/FY23/R073
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : **SEPTEMBER-2022 (2<sup>ND</sup> Fort Night)**
- 10 Date of Sample Received : 20.09.2022 & 21.09.2022
- 11 Date of Sample Analysis : 21.09.2022 & 22.09.2022
- 12 Date Sample Analysis Completion : 22.09.2022 & 23.09.2022
- 13 Report Issued Date : **04.10.2022**
- 14 Report Number : **ULR-TC532322000000812F**

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Beneficiation Plant</b>											
1	Ore Crushing & Screening	21.09.2022	2781	---	30	39	5.60	30	0.40	14.60	50
2	Ore Fines Hopper Bottom	21.09.2022	2782	---	31	36	4.98	30	0.40	12.80	50
3	Main Crusher (RMHS)	20.09.2022	2746	---	29	36	5.65	25	0.50	10.50	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
1	Ore Crushing & Screening	2534	2412	-
2	Ore Fines Hopper Bottom	2253	2162	-
3	Main Crusher (RMHS)	3994	3829	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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)

Verified By  
**B P Lingaraja**  
Chemist



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TC-5323

**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/FY23/R073
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : **SEPTEMBER-2022 (2<sup>ND</sup> Fort Night)**
- 10 Date of Sample Received : 19.09.2022 & 20.09.2022
- 11 Date of Sample Analysis : 20.09.2022 & 21.09.2022
- 12 Date Sample Analysis Completion : 21.09.2022 & 22.09.2022
- 13 Report Issued Date : **04.10.2022**
- 14 Report Number : **ULR-TC532322000000808F**

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Pellet Plant</b>											
4	Mixed Area	20.09.2022	2747	---	28	38	5.27	3.0	0.30	23.50	50
5	Pellet Discharge Point	19.09.2022	2719	---	29	44	6.65	7.0	0.50	25.10	50
6	Production Transfer Point (AGB)	20.09.2022	2748	---	28	39	5.57	6.5	0.60	17.10	50

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
4	Mixed Area	1341	1279	-
5	Pellet Discharge Point	4701	4400	-
6	Production Transfer Point (AGB)	5670	5404	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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)

*Linga*  
Verified By  
B P Lingaraja  
Chemist



### Note:

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# GLOBAL ENVIRONMENT & MINING SERVICES

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TC-5323

**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/FY23/RO73
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VSS-1  
Sl. No: Stack Monitoring Kit/ 304-DTB-2007
- 5 Instrument Details : Calibration Date: 07.02.2022  
Calibration Due Date: 06.02.2023
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Date of Analysis Completion : **SEPTEMBER-2022 (2<sup>ND</sup> Fort Night)**
- 10 Date of Sample Received : 26.09.2022 & 27.09.2022
- 11 Date of Sample Analysis : 27.09.2022 & 28.09.2022
- 12 Date Sample Analysis Completion : 28.09.2022 & 29.09.2022
- 13 Report Issued Date : **04.10.2022**
- 14 Report Number : **ULR-TC532322000000838F**

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/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>2 X 100 TPD Sponge Iron Kiln 1 &amp; 2</b>											
7	Cooler Discharge -1	26.09.2022	2859	---	26	37	5.19	30	1.20	26.10	50
8	Cooler Discharge -2	26.09.2022	2860	---	27	37	4.83	30	1.20	28.80	50
9	Coal Crusher	-	-	---	-	-	-	30	1.20	-	50
10	Transfer House-PSB	26.09.2022	2861	---	27	36	5.39	30	1.20	23.70	50
11	Intermediate Bin	27.09.2022	2880	---	30	37	5.75	30	1.20	19.50	50

Sl. No	2 X 100 TPD Sponge Iron Kiln 1 & 2	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
7	Cooler Discharge -1	21134	20305	-
8	Cooler Discharge -2	19668	18852	-
9	Coal Crusher	-	-	-
10	Transfer House-PSB	21948	21067	-
11	Intermediate Bin	23414	22369	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	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)

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Pingga*  
Verified By  
B P Lingaraja  
Chemist



### Note:

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TC-5323

**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/FY23/R073  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Equinox-107  
Sl. No: 110706604  
Instrument Details : Calibration Date: 24.05.2022  
Calibration Due Date: 23.05.2023  
Month : SEPTEMBER-2022  
Report Issue Date : 04.10.2022  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : ULR-TC532322000000758F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	01.09.2022	44.2	51.8	75	41.2	53.6	70
2	Near ATM	01.09.2022	44.9	54.2	75	42.5	52.5	70
3	Transit House	02.09.2022	45.2	52.8	75	40.5	47.4	70
4	CAAQMS Station	02.09.2022	48.4	56.4	75	39.1	46.8	70
5	Gunda Road	03.09.2022	44.7	58.2	75	38.9	52.7	70
6	Gunda Railway Station	03.09.2022	48.2	60.5	75	41.4	59.6	70
7	Bagging Shed	05.09.2022	56.3	67.9	75	44.8	60.2	70
8	Railway Siding	05.09.2022	52.4	64.8	75	49.6	59.3	70
9	4th Gate	06.09.2022	48.6	58.4	75	48.2	58.6	70
10	Bricks Plant	06.09.2022	52.6	65.1	75	37.6	46.5	70
11	Kempuhalla (Wagon Tippler)	07.09.2022	50.8	59.6	75	40.7	54.7	70
12	Danapura Bridge	07.09.2022	54.8	59.2	75	42.8	58.1	70
13	2nd Gate	08.09.2022	43.5	54.6	75	38.3	45.3	70
14	Project Store	08.09.2022	41.2	46.4	75	39.5	43.7	70
15	Dispatch (Truck Parking Area)	08.09.2022	51.3	64.4	75	51.3	57.6	70

### INFERENCE

As per CPCB Standards,

Report Status: - Measured Values for the above parameters are within the limit.

*Pinga*  
Verified By  
B P Lingaraja  
Chemist



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TC-5323

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/FY23/R073  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Equinox-107  
Sl. No: 110706604  
Instrument Details : Calibration Date: 24.05.2022  
Calibration Due Date: 23.05.2023  
Month : SEPTEMBER-2022  
Report Issue Date : 04.10.2022  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : ULR-TC532322000000779F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	16.09.2022	46.2	54.7	75	42.1	64.5	70
2	Near ATM	16.09.2022	46.2	51.4	75	41.2	53.4	70
3	Transit House	17.09.2022	48.6	54.9	75	40.6	51.6	70
4	CAAQMS Station	17.09.2022	45.6	56.3	75	38.5	50.6	70
5	Gunda Road	19.09.2022	45.2	51.8	75	41.1	53.1	70
6	Gunda Railway Station	19.09.2022	48.4	59.4	75	39.5	63.8	70
7	Bagging Shed	20.09.2022	47.1	66.0	75	38.9	58.2	70
8	Railway Siding	20.09.2022	52.3	67.4	75	42.4	63.4	70
9	4th Gate	21.09.2022	50.2	58.2	75	40.8	60.4	70
10	Bricks Plant	21.09.2022	43.6	62.8	75	43.4	56.4	70
11	Kempuhalla (Wagon Tippler)	22.09.2022	45.8	56.4	75	42.6	53.5	70
12	Danapura Bridge	22.09.2022	50.0	56.8	75	45.3	59.6	70
13	2nd Gate	23.09.2022	44.6	56.8	75	41.3	54.6	70
14	Project Store	23.09.2022	45.6	51.8	75	40.1	55.5	70
15	Dispatch (Truck Parking Area)	23.09.2022	45.5	66.8	75	46.2	62.8	70

### INFERENCE

As per CPCB Standards,

Report Status: - Measured Values for the above parameters are within the limit.

Verified By  
B P Lingaraja  
Chemist



### Note:

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TC-5323

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/FY23/R073  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Equinox-107  
Sl. No: 110706604  
Instrument Details : Calibration Date: 24.05.2022  
Calibration Due Date: 23.05.2023  
Month : SEPTEMBER-2022  
Report Issue Date : 04.10.2022  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Sample Code : 2426, 2452, 2537, 2475, 2493 & 2561  
Report No : ULR-TC532322000000693F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)						
			Day Time			Standard	Night Time		
			Min	Max	Avg		Min	Max	Avg
1	Danapur Village	05.09.2022	44.6	54.3	51.2	55	34.2	42.5	38.31
2	Mariyammana Halli	06.09.2022	49.3	56.4	52.9		38.2	42.6	40.92
3	Hanumana Halli	12.09.2022	47.1	55.6	53.0		38.6	44.6	42.07
4	Galemmanagudi	07.09.2022	45.8	53.6	51.0		36.5	44.1	41.19
5	Gunda Village	08.09.2022	42.8	50.8	48.8		35.4	41.8	38.72
6	Gunda Tanda Village	13.09.2022	40.3	52.6	49.2		35.8	43.6	39.96

### INFERENCE

As per CPCB Standards,

Report Status: - Measured Values for the above parameters are within the limit.

Verified By  
B P Lingaraja  
Chemist

### NOISE: (AMBIENT STANDARDS)

Area code	Category of Area	Limit in dB(A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Area	50	40

Note	Day time shall mean from 6.00 am and 10.00 pm
	Night time shall mean from in between 10.00 pm and 5.00 am
	Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
	Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
	* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
	A "decibel" is a unit in which noise is measured.
	"A", in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
	Leq: It is energy mean of the noise level over a specified period.

### Note:

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- Water Samples will be destroyed after 150 days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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TC-5323

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/FY23/RO73
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	Sample Code	: 2572
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000746F

### Results

Sl. No.	Parameters	Protocol	Unit	Danapur Village (GW1)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.19	6.5 to 8.5	NR
2.	Conductivity	APHA 23 <sup>rd</sup> Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2300	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1494	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	124.38	200	400
7.	Phosphorus as P	APHA 23 <sup>rd</sup> Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	593.84	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	126.29	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	53.58	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	536.2	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	403.71	250	1000
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.74	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	11.7	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	470.4	200	600

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TC-5323

### ANNEXURE-22

17.	Acidity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.17	0.30	NR
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.273	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.126	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

Note: GW1: Danapur Village. NR-No relaxation. Ab-Absent.

#### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rug*  
Analysed By  
Rukmini G  
Chemist

*Ling*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

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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.
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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/FY23/R073
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	Sample Code	: 2572
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Danapur Village (GW1)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey





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TC-5323

**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/FY23/RO73
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	Sample Code	: 2573
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000747F

### Results

Sl. No	Parameters	Protocol	Unit	Hanumanahalli Village (GW2)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.44	6.5 to 8.5	NR
2.	Conductivity	APHA 23 <sup>rd</sup> Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	3200	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1820	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	153.78	200	400
7.	Phosphorus as P	APHA 23 <sup>rd</sup> Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	535.03	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	70.43	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	88.52	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	540.36	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	235.58	250	1000
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.89	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	31.57	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	502.12	200	600

**Note:**

1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.

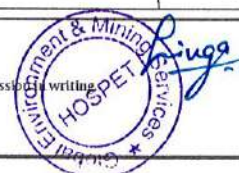
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5. Recognised by Ministry of Environment, Forest and Climate Change for Laboratory

6. Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey





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TC-5323

## **ANNEXURE-23**

17.	Acidity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.11	0.30	NR
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.256	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.145	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

**Note: GW2: Hanumanahalli Village. NR-No relaxation. Ab-Absent.**

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

*Rug*  
**Analysed By**  
**Rukmini G**  
**Chemist**

*Rugg*  
**Verified By**  
**B P Lingaraja**  
**Chemist**

### **Note:**

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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/FY23/RO73
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	Sample Code	: 2573
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Hanumanahalli Village (GW2)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Linga*  
Verified By  
B P Lingaraja  
Chemist



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TC-5323

**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/FY23/RO73
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	Sample Code	: 2574
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000748F

### Results

Sl. No	Parameters	Protocol	Unit	Galemmana Gudi Village (GW3)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.65	6.5 to 8.5	NR
2.	Conductivity	APHA 23 <sup>rd</sup> Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	1800	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1170	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.1	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	133.37	200	400
7.	Phosphorus as P	APHA 23 <sup>rd</sup> Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	195.9	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	97.15	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	29.14	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	362.80	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	354.3	250	1000
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.78	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	27.44	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	386.12	200	600

#### Note:

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TC-5323

### ANNEXURE-24

17.	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.16	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.214	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.121	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

**Note: GW3:** Galemmana Gudi Village. **NR**-No relaxation. **Ab**-Absent.

#### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*P. Linga*  
Verified By  
B P Lingaraja  
Chemist

#### 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/FY23/R073
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	Sample Code	: 2574
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Galemmana Gudi Village (GW3)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Linga*  
Verified By  
B P Lingaraja  
Chemist



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TC-5323

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/FY23/RO73
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	Sample Code	: 2575
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000749F

### Results

Sl. No	Parameters	Protocol	Unit	Mariyammana Halli Village (GW4)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.36	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2700	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1754	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.4	1	5
5.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23rd Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	174.29	200	400
7.	Phosphorus as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	547.7	-	-
9.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	151.39	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	25.21	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	482.24	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	310.08	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.32	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23rd Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	26.14	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	456.68		600

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Website : www.globalmining.in



TC-5323

### ANNEXURE-25

17.	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.12	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.347	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.185	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

**Note:** GW4: Mariyammana Halli Village. NR-No relaxation. Ab-Absent.

#### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Linga*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

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e-mail : gems\_hpt@yahoo.com

Website : www.globalmining.in

ANNEXURE-26  
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/FY23/RO73
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	Sample Code	: 2575
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Mariyammana Halli Village (GW4)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2-7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111-B (Pg No.3-20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



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# GLOBAL ENVIRONMENT & MINING SERVICES

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Website : www.globalmining.in



TC-5323

ANNEXURE-26  
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/FY23/RO73
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	Sample Code	: 2576
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000750F

## Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.1	6.5 to 8.5	NR
2.	Conductivity	APHA 23 <sup>rd</sup> Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	1020	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	662	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.4	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	93.46	200	400
7.	Phosphorus as P	APHA 23 <sup>rd</sup> Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	171.8	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	89.05	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	18.54	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	298.96	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	152.02	250	1000
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.41	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	10.98	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	321.4		600

### Note:

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TC-5323

### ANNEXURE-26

17.	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.12	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.287	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.052	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

Note: GW5: Gunda Thanda. NR-No relaxation. Ab-Absent.

#### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-27  
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/FY23/RO73
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	Sample Code	: 2576
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



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TC-5323

**ANNEXURE-27**  
**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/FY23/RO73
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	Sample Code	: 2577
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000751F

## Results

Sl. No	Parameters	Protocol	Unit	Gunda Village (GW6)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.25	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	1260	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	818	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23rd Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	23.64	200	400
7.	Phosphorus as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	96.87	-	-
9.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	101.2	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	56.81	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	486.82	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	50.33	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.46	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23rd Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	4.17	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	405.72	200	600

### Note:

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TC-5323

## ANNEXURE-27

17.	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.13	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.264	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.082	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

**Note:** GW6: Gunda Village. NR-No relaxation. Ab-Absent.

### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



### Note:

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ANNEXURE-28  
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/FY23/RO73
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	Sample Code	: 2577
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	Gunda Village (GW6)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	APHA 23 <sup>rd</sup> Edition 9222-B (p.no.9-82) Membrane filter technique	MPN/100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
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Website : www.globalmining.in



TC-5323

ANNEXURE-28  
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/FY23/RO73
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	: RO Drinking Water
9	Sample Code	: 2578
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022
15	Report Number	: ULR-TC532322000000752F

### Results

Sl. No	Parameters	Protocol	Unit	RO Drinking Water	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	6.83	6.5 to 8.5	NR
2.	Conductivity	APHA 23 <sup>rd</sup> Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	54	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	34	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	6.06	200	400
7.	Phosphorus as P	APHA 23 <sup>rd</sup> Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	0	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	7.28	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	3.91	30	100
12.	Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	34.34	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	5.03	250	1000
14.	Fluoride as F	APHA 23 <sup>rd</sup> Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.11	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	0.59	45	NR
16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	29.4	200	600

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### ANNEXURE-28

17.	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 <sup>rd</sup> Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.21	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.113	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.032	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR
26.	Mercury as Hg	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	Nil	0.001	NR

Note: W6: RO Drinking Water. NR-No relaxation. Ab-Absent.

#### INFERENCE

As per Standards IS: 10500:2012

Report Status: - Measured Values for the above parameters are within the limit.

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

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ANNEXURE-29  
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/FY23/RO73
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	: RO Drinking Water
9	Sample Code	: 2578
10	Date of Sampling	: 14.09.2022
11	Sample Received	: 14.09.2022
12	Date of Analysis	: 14.09.2022
13	Date of Analysis Completion	: 20.09.2022
14	Report Issue Date	: 04.10.2022

### Results

Sl. No	Parameters	Protocol	Unit	RO Drinking Water	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	colour	IS: 3025 (PART 4)- 1984, RA-2012 Platinum cobalt Method	Hazen	<5	5	15
2.	Odour	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agreeable	Agreeable	Agreeable
3.	Total Residual chlorine	IS:3025 (part 26)-1986, RA-2003, Iodometric method	mg/L	Nil	0.2	1.0
4.	Oil & Grease	Clause 6 of IS 3025 (Part 39) Infrared	mg/L	Nil	0.5	No Relaxation
5.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
6.	Selenium as Se	APHA 23 <sup>rd</sup> Edition 3114 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.01	No Relaxation
7.	Cyanides (as CN)	APHA 23 <sup>rd</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	NA	0.05	No Relaxation
8.	Phenolic Compound as phenols	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	1.0	-
9.	Anionic detergents (as MBAS)	APHA 23 <sup>rd</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	0.2	1.0
10.	Boron as B	APHA 23 <sup>rd</sup> Edition 2017 4500 B-B (p.no.4-25 to 4-26)	mg/L	<0.5	0.5	1.0
11.	Escherichia coli count	APHA 23 <sup>rd</sup> Edition 9222 (p.no.9-82) Membrane filter technique	MPN/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation,

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Rukmini G  
Chemist

*B P Lingaraja*  
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B P Lingaraja  
Chemist



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ANNEXURE-29  
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/FY23/RO73
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 (Outlet)
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022
14	Report Number	: ULR-TC532322000000753F

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
Sample code			-	2579	2580	2581	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.87	7.62	7.70	6.5 to 8.5
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	14.08	20.14	18.20	<100
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	8.0	14.0	30
4.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	18.0	44.0	38.0	50
5.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	1.24	4.59	4.57	10

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

STP 45 KLD - Near Fortivia

STP-1 90 KLD -Near ISP Area

STP-2 90 KLD -Near Gunda Guest House

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



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ANNEXURE-30  
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/FY23/RO73
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	: <b>Sewage Treatment Plant (Outlet)</b>
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	2579	2580	2581	
1.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	8	10	14	-
2.	Odour	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agree able	Agree able	Agree able	-
3.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	BDL	-
4.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	BDL	-
5.	Chromium (as Cr <sup>6+</sup> )	APHA-23 <sup>RD</sup> Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	<0.001	-
6.	Ammonical nitrogen as N	IS:3025 (part 34)-1988, RA-2014, Nesslerization method	mg/L	1.24	0.76	1.36	-

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

STP 45 KLD - Near Fortivia

STP-1 90 KLD -Near ISP Area

STP-2 90 KLD -Near Gunda Guest House

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

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Verified By  
B P Lingaraja  
Chemist



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ANNEXURE-30  
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/FY23/RO73
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	: <b>Waste Water</b>
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022
14	Report Number	: <b>ULR-TC532322000000754F</b>

### Results

Sl. No.	Parameters	Protocol	Unit	Results		As per KSPCB Std
				Neutralization Pit 70 MW Power Plant	Neutralization Pit 2x70 MW Power Plant	
				Sample Code		
				2583	2584	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	9.04	7.12	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	28.16	26.04	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	18.0	54.0	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	0.24	0.42	10

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

*Rukmini G.*  
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Rukmini G  
Chemist

*Linga*  
Verified By  
B P Lingaraja  
Chemist



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ANNEXURE-31  
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/FY23/RO73
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	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022
14	Report Number	: ULR-TC532322000000755F

### Results

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
		Sample code		2585	2586	
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.74	7.90	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	2.0	3.0
3.	Fluorides as F	APHA 23 <sup>rd</sup> Edition 4500F D (Pg. No.4-90 to 4-91)	mg/L	0.25	0.28	1.5
4.	Arsenic as As	APHA-23 <sup>rd</sup> Edition-3114-B (Pg. No.3 -36 to 3-40)	mg/L	<0.1	<0.1	0.2

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraj*  
Verified By  
B P Lingaraj  
Chemist

#### Note:

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ANNEXURE-32  
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/FY23/RO73
- 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 : 14.09.2022
- 10 Sample Received : 14.09.2022
- 11 Date of Analysis : 14.09.2022
- 12 Date of Analysis Completion : 20.09.2022
- 13 Report Issue Date : **04.10.2022**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS - B
				Danayakanakere Upstream	Danayakanakere Downstream	
		Sample code		2585	2586	
1.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	8.2	9.0	>5.0
2.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	5	300
3.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
4.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	0.005
5.	Chromium (as Cr <sup>6+</sup> )	APHA-23 <sup>RD</sup> Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	1.0
6.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
7.	<b>Total Coliform Organisms</b>					
	Total Coli forms	APHA 23 <sup>RD</sup> Edition 9221-C (Pg. No.9-72 to 9-74)	MPN/ 100 ml	Absent	Absent	500
	Escherichia coli or E. coli	APHA 23 <sup>RD</sup> 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.

*Rukmini G.*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraja*  
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ANNEXURE-32  
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/FY23/RO73
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	: <b>Surface Water</b>
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022
14	Report Number	: <b>ULR-TC532322000000756F</b>

### Results

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
		Sample code		2587	2588	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.13	8.32	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	1.0	2.0	3.0
3.	Fluorides as F	APHA 23 <sup>RD</sup> Edition 4500F- D (Pg. No.4-90 to 4-91)	mg/L	0.052	0.30	1.5
4.	Arsenic as As	APHA-23 <sup>RD</sup> Edition-3114-B (Pg. No.3-36 to 3-40)	mg/L	<0.1	<0.1	0.2

Note: BDL-Below detectable Limit.

INFERENCE: The measured values are within the Limit.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*Linga*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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**GLOBAL ENVIRONMENT & MINING SERVICES**

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ANNEXURE-33  
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/FY23/RO73
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	: <b>Surface Water</b>
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: <b>04.10.2022</b>

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
Sample code				2587	2588	
1.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	5.8	6.0	>5.0
2.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	6	8	300
3.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
4.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	0.005
5.	Chromium (as Cr <sup>6+</sup> )	APHA-23 <sup>RD</sup> Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	1.0
6.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
7.	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.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*B P Lingaraj*  
Verified By  
B P Lingaraj  
Chemist

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TC-5323

ANNEXURE-33  
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/FY23/R073
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	: <b>Surface Water</b>
9	Date of Sampling	: 14.09.2022
10	Sample Received	: 14.09.2022
11	Date of Analysis	: 14.09.2022
12	Date of Analysis Completion	: 20.09.2022
13	Report Issue Date	: 04.10.2022
14	Report Number	: ULR-TC532322000000757F

### Results

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
Sample Code				2589	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.59	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	3.0
3.	Fluorides as F	APHA 23 <sup>RD</sup> Edition 4500F D (Pg. No.4-90 to 4-91)	mg/L	0.20	1.5
4.	Arsenic as As	APHA-23 <sup>RD</sup> Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	<0.1	0.2

Note: BDL- Below detectable Limit.

INFERENCE: The measured values are within the Limit.

*Rukmini G*  
Analysed By  
Rukmini G  
Chemist

*R. Lingaraja*  
Verified By  
B P Lingaraja  
Chemist



#### Note:

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ANNEXURE-34  
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/FY23/RO73
- 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 : 14.09.2022
- 10 Sample Received : 14.09.2022
- 11 Date of Analysis : 14.09.2022
- 12 Date of Analysis Completion : 20.09.2022
- 13 Report Issue Date : 04.10.2022

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
Sample Code			2589		
1.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	6.2	>5.0
2.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	6	300
3.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	BDL	0.05
4.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	0.005
5.	Chromium (as Cr <sup>6+</sup> )	APHA-23 <sup>RD</sup> Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	1.0
6.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	1.0
7.	Total Coliform Organisms,				
	Total Coli forms	APHA 23RD Edition 9221-C (Pg. No.9-72 to 9-74)	MPN/ 100 ml	Absent	500
	Escherichia coli or E. coli	APHA 23RD Edition 9221-F (Pg. No.9-78 to 9-79)	MPN/ 100 ml	Absent	-

Note: BDL-Below detectable Limit

INFERENCE: The measured values are within the Limit.

*Rukmini G*  
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