

## **ENVIRONMENTAL MONITORING REPORT**



*at*

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

### **Stage – I**

### **OCTOBER - 2023**

**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:06.11.2023**

  
**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 producequality product, in environmentally friendly technology. Adopting sufficient air pollution control equipment's, recycling andreusing 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 monitoredand 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 **OCTOBER -2023**. The Parameters monitored are:

- ❖ Ambient Air Quality
- ❖ Fugitive Dust Level
- ❖ Stack Emission
- ❖ Ambient NoiseLevel
- ❖ Water Quality

## **2.0 SCOPE AND METHODOLOGY**

### **2.1 PREAMBLE**

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

### **2.2 AMBIENT AIR QUALITY**

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

#### **2.2.1 PARTICULATE MATTER (PM10)(size less than 10 $\mu$ m).**

##### **Purpose**

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

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

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

Air is drawn through a size-selective inlet and through a 20.3X25.4 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 PM10 in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.

##### **Sampling**

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



sampling, record the flow meter reading, take out the filter media from the sampler, and put in a container or envelope.

### **Analysis**

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

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

### **Purpose**

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

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

### **Principle**

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

#### Sampling

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

#### Analysis

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

### 2.2.4 Nitrogen Di Oxide (NO<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 0.25 mm 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.

**Sewagetreatment 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 26 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, SO2, NO2 values Average 70.08, 21.86, 10.28 & 12.11 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, SO2, NO2 values Average 66.22, 18.32, 9.57 & 11.60 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, SO2, NO2 values Average 67.81, 17.44, 8.87 & 10.79 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, SO2, NO2 values Average 58.73, 15.40, 8.01 & 9.90 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, SO2, NO2 values Average 50.77, 14.89, 7.40 & 9.18 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, SO2, NO2 values Average 55.00, 15.38, 7.55 & 9.40 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 283.93  $\mu\text{g}/\text{m}^3$ , maximum value 1909.51  $\mu\text{g}/\text{m}^3$ , and average value 1101.92  $\mu\text{g}/\text{m}^3$ . 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 6.64  $\text{mg}/\text{Nm}^3$ , Maximum Value 35.22  $\text{mg}/\text{Nm}^3$  & Average Value 18.96  $\text{mg}/\text{Nm}^3$ . The Stack Emission Results given in **Annexure-9 to Annexure-22**.

## **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 42.5 to 72.4 dB (A) and 40.1 to 64.6 dB (A). The noise level status is given in **Annexure-23 to Annexure-25**.

**3.1** Water Sample Collected at 17 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-26 to Annexure-37**.

## **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/FY24/R018  
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 : OCTOBER - 2023  
Location : A1-Danapur Village  
Duration of Monitoring : 24 Hour  
Report Issued Date : 06.11.2023  
Report Number : ULR-TC532323000001161F

### 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
05.10.2023	06.10.2023	3203	74.13	100	20.85	60	9.91	80	12.00	80
06.10.2023	07.10.2023	3207	82.92		24.72		8.16		8.74	
12.10.2023	13.10.2023	3297	59.91		22.13		11.54		13.29	
13.10.2023	14.10.2023	3314	80.63		21.12		10.67		10.02	
19.10.2023	20.10.2023	3438	55.25		19.58		9.36		14.10	
20.10.2023	21.10.2023	3457	65.43		25.71		9.56		9.80	
27.10.2023	28.10.2023	3542	66.66		19.86		11.87		15.27	
28.10.2023	29.10.2023	3557	75.22		20.96		11.19		13.67	
Average			70.08		21.86		10.28		12.11	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By  
T.R.Pooja  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



### 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.
- 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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Website: www.globalmining.in

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

### ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.  
 Customer Reference : WO/ADMIN/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A1-Danapur Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.11.2023

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.10.2023	3203	0.13	4.0
2	06.10.2023	3207	0.10	
3	12.10.2023	3297	0.14	
4	13.10.2023	3314	0.12	
5	19.10.2023	3438	0.10	
6	20.10.2023	3457	0.13	
7	27.10.2023	3542	0.10	
8	28.10.2023	3557	0.12	

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	08.07.2023
5	Calibration Due Date	07.07.2024

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

*Pooja*  
 Analysed By  
 T.R.Pooja  
 Chemist

*KR*  
 Authorised Signatory  
 K. Ramakrishna Reddy  
 Technical Manager



- 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)

3rd Main Road, Basaveswara Badavane,

HOSAPETE - 583201, Dist., Vijayanagara (Karnataka)

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Website : www.globalmining.in



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/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A2-Mariyammanahalli Village  
 Duration of Monitoring : 24 Hour  
 Report Issued Date : 06.11.2023  
 Report Number : ULR-TC532323000001139F

#### 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
03.10.2023	04.10.2023	3163	65.88	100	15.23	60	10.01	80	12.84	80
04.10.2023	05.10.2023	3185	66.80		20.13		6.53		8.27	
10.10.2023	11.10.2023	3258	64.29		16.38		10.01		13.88	
11.10.2023	12.10.2023	3260	70.27		14.15		10.27		12.24	
16.10.2023	17.10.2023	3372	63.86		19.68		9.78		10.02	
17.10.2023	18.10.2023	3396	74.85		23.67		9.40		12.12	
25.10.2023	26.10.2023	3507	54.25		17.80		11.54		13.29	
26.10.2023	27.10.2023	3532	69.61		19.52		9.03		10.21	
Average			66.22		18.32		9.57		11.60	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By  
T.R. Pojja  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### 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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Website: www.globalmining.in

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/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A2-Mariyammanahalli Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.11.2023

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	03.10.2023	3163	0.12	4.0
2	04.10.2023	3185	0.16	
3	10.10.2023	3258	0.11	
4	11.10.2023	3260	0.13	
5	16.10.2023	3372	0.18	
6	17.10.2023	3396	0.10	
7	25.10.2023	3507	0.10	
8	26.10.2023	3532	0.14	

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	08.07.2023
5	Calibration Due Date	07.07.2024

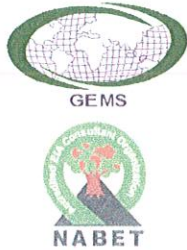
INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
-----------	---

*Pooja*  
 Analysed By  
 T.R.Pooja  
 Chemist

*KR*  
 Authorised Signatory  
 K. Ramakrishna Reddy  
 Technical Manager



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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/FY24/R018  
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 : **OCTOBER - 2023**  
Location : **A3-Hanumanahalli Village**  
Duration of Monitoring : 24 Hour  
Report Issued Date : **06.11.2023**  
Report Number : **ULR-TC532323000001140F**

### 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
03.10.2023	04.10.2023	3164	67.86	100	16.25	60	9.03	80	11.54	80
04.10.2023	05.10.2023	3186	71.48		15.73		7.40		8.51	
09.10.2023	10.10.2023	3239	72.62		17.44		11.65		14.35	
10.10.2023	11.10.2023	3259	52.26		22.44		9.36		11.19	
16.10.2023	17.10.2023	3397	69.69		14.32		6.64		8.62	
17.10.2023	18.10.2023	3355	63.89		19.31		8.82		9.67	
25.10.2023	26.10.2023	3508	65.38		15.64		8.16		9.73	
26.10.2023	27.10.2023	3533	79.31		18.41		9.91		12.72	
Average			67.81		17.44		8.87		10.79	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By  
T.R.Pooja  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



### 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-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/FY24/R018  
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 : OCTOBER - 2023  
Location : A3-Hanumanahalli Village  
Duration of Monitoring : 1 Hour  
Report Issued Date : 06.11.2023

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	03.10.2023	67.86	0.14	4.0
2	04.10.2023	71.48	0.12	
3	09.10.2023	72.62	0.10	
4	10.10.2023	52.26	0.12	
5	16.10.2023	59.69	0.10	
6	17.10.2023	63.89	0.10	
7	25.10.2023	65.38	0.14	
8	26.10.2023	59.31	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	08.07.2023
5	Calibration Due Date	07.07.2024

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

*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

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



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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/FY24/R018  
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 : **OCTOBER - 2023**  
Location : **A4-Galemmanagudi Village**  
Duration of Monitoring : 24 Hour  
Report Issue Date : **06.11.2023**  
Report Number : **ULR-TC532323000001162F**

### 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
05.10.2023	06.10.2023	3204	59.03	100	15.57	60	8.16	80	10.61	80
06.10.2023	07.10.2023	3208	66.35		21.39		9.91		11.51	
12.10.2023	13.10.2023	3298	58.14		16.65		8.27		9.56	
13.10.2023	14.10.2023	3315	57.06		12.18		7.29		8.46	
16.10.2023	17.10.2023	3439	62.17		13.57		6.42		8.62	
17.10.2023	18.10.2023	3458	54.03		14.14		9.14		10.27	
25.10.2023	26.10.2023	3534	50.61		11.76		8.49		9.81	
26.10.2023	27.10.2023	3548	62.48		17.95		6.42		10.43	
Average			58.73		15.40		8.01		9.90	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

*nick*  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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e-mail : gems\_hpt@yahoo.com

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/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A4-Galemmanagudi Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.11.2023

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.10.2023	3204	0.10	4.0
2	06.10.2023	3208	0.12	
3	12.10.2023	3298	0.12	
4	13.10.2023	3315	0.16	
5	16.10.2023	3439	0.10	
6	17.10.2023	3458	0.14	
7	25.10.2023	3534	0.10	
8	26.10.2023	3548	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	08.07.2023
5	Calibration Due Date	07.07.2024

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

*Pooja R*  
 Analysed By  
 T.R.Pooja  
 Chemist

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



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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/FY24/R018  
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 : OCTOBER - 2023  
Location : A5-Gunda Village  
Duration of Monitoring : 24 Hour  
Report Issue Date : 06.11.2023  
Report Number : ULR-TC532323000001163F

#### RESULTS

Parameters			PM10 [µg/m <sup>3</sup> ]		PM2.5 [µg/m <sup>3</sup> ]		SO2 [µg/m <sup>3</sup> ]		NO2 [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
05.10.2023	06.10.2023	3205	43.33	100	16.28	60	10.23	80	10.14	80
06.10.2023	07.10.2023	3209	57.02		16.84		6.53		8.74	
12.10.2023	13.10.2023	3299	59.44		11.19		7.73		10.48	
13.10.2023	14.10.2023	3316	48.47		13.70		5.55		7.92	
19.10.2023	20.10.2023	3440	52.46		13.10		6.75		9.44	
20.10.2023	21.10.2023	3459	48.23		14.53		6.10		8.62	
25.10.2023	26.10.2023	3515	51.98		19.64		5.56		7.69	
26.10.2023	27.10.2023	3531	45.23		13.88		10.78		10.02	
Average			50.77		14.89		7.40		9.18	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

#### INFERENCE

As per NAAQMS Standards (2009),

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

*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

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



#### Note:

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

### ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.  
 Customer Reference : WO/ADMIN/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A5-Gunda Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.11.2023

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	05.10.2023	3205	<0.01	4.0
2	06.10.2023	3209	<0.01	
3	12.10.2023	3299	<0.01	
4	13.10.2023	3316	<0.01	
5	19.10.2023	3440	<0.01	
6	20.10.2023	3459	<0.01	
7	25.10.2023	3515	<0.01	
8	26.10.2023	3531	<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	08.07.2023
5	Calibration Due Date	07.07.2024

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

*Pooja*  
 Analysed By  
 T.R.Pooja  
 Chemist

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



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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/FY24/R018  
 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 : OCTOBER - 2023  
 Location : A6-Gunda Tanda Village  
 Duration of Monitoring : 24 Hour  
 Report Issue Date : 06.11.2023  
 Report Number : ULR-TC532323000001138F

#### 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
03.10.2023	04.10.2023	3162	45.88	100	16.34	60	8.38	80	10.02	80
04.10.2023	05.10.2023	3184	57.57		15.04		7.51		9.09	
09.10.2023	10.10.2023	3257	53.49		17.69		9.03		11.30	
10.10.2023	11.10.2023	3371	53.58		14.86		5.12		7.58	
16.10.2023	17.10.2023	3395	66.79		17.46		8.49		10.61	
17.10.2023	18.10.2023	3418	60.00		13.99		5.44		7.81	
27.10.2023	28.10.2023	3541	49.79		13.14		7.51		9.56	
30.10.2023	31.10.2023	3563	52.89		14.54		8.93		9.25	
Average			55.00		15.38		7.55		9.40	

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	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By  
T.R.Pooja  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### 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-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/FY24/R018  
 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 : **OCTOBER - 2023**  
 Location : **A6-Gunda Tanda Village**  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : **06.11.2023**

#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	03.10.2023	3162	<0.01	4.0
2	04.10.2023	3184	<0.01	
3	09.10.2023	3257	<0.01	
4	10.10.2023	3371	<0.01	
5	16.10.2023	3395	<0.01	
6	17.10.2023	3418	<0.01	
7	27.10.2023	3541	<0.01	
8	30.10.2023	3563	<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	08.07.2023
5	Calibration Due Date	07.07.2024

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

*Dojgar*  
 Analysed By  
 T.R.Pooja  
 Chemist

*nmr*  
 Authorised Signatory  
 K. Ramakrishna Reddy  
 Technical Manager



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

### FORTNIGHTLY FUGITIVE AIR QUALITY MONITORING DATA

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY24/RO18
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	:	OCTOBER - 2023 (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	:	06.11.2023
10	Report Number	:	GEMS/BMM/FM/2023-24/1134

### 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	3240	09.10.2023	10.10.2023	709.23	2000
2.	Main Crusher	3241	09.10.2023	10.10.2023	536.57	2000
3.	Iron Ore Screen	3243	09.10.2023	10.10.2023	1006.27	2000
<b>II. Pellet Plant-I</b>						
4.	Near Pellet Plant	3244	09.10.2023	10.10.2023	1168.60	2000
5.	Annual Cooler Pellet Discharge bin	3245	09.10.2023	10.10.2023	1005.08	2000
6.	Pellet Stock Yard	3253	10.10.2023	11.10.2023	1576.95	2000
<b>III. Sponge Iron Division-1 (kiln 1 &amp; 2)</b>						
7.	Control Room SID-1	3261	11.10.2023	12.10.2023	1732.09	2000
8.	Near Product bin	3262	11.10.2023	12.10.2023	494.63	2000
9.	Coal Feeding Area	3263	11.10.2023	12.10.2023	1820.74	2000
<b>IV. Induction Furnace &amp; Rolling Mill - 1</b>						
10.	IF Office	3254	10.10.2023	11.10.2023	1131.66	2000
11.	TMT Stock Yard	3255	10.10.2023	11.10.2023	1025.07	2000
12.	RML Gasifier	3256	10.10.2023	11.10.2023	927.73	2000
<b>V. Power Plant 25 MW-1</b>						
13.	25 MW ESP	3264	11.10.2023	12.10.2023	887.29	2000
14.	25 MW ACC	3309	13.10.2023	14.10.2023	1727.93	2000
<b>VI. Site Services</b>						
15.	PGP- coal handling system	3257	10.10.2023	11.10.2023	415.21	2000
16.	IF Slag Crusher	3265	11.10.2023	12.10.2023	1055.69	2000
17.	Main Gate	3310	13.10.2023	14.10.2023	747.03	2000
18.	Fly ash Dump	3226	07.10.2023	08.10.2023	877.00	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	01.04.2023	01.04.2023	01.04.2023	01.04.2023	01.04.2023
5	Calibration Due Date	31.03.2024	31.03.2024	31.03.2024	31.03.2024	31.03.2024

Analysed By  
T.R. Pooja  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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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/FY24/RO18
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>OCTOBER - 2023(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>06.11.2023</b>
10	Report Number	:	<b>GEMS/BMM/FM/2023-24/1145</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	3479	23.10.2023	24.10.2023	1059.95	2000
2.	Main Crusher	3477	23.10.2023	24.10.2023	698.05	2000
3.	Iron Ore Screen	3478	23.10.2023	24.10.2023	428.93	2000
<b>II. Pellet Plant-I</b>						
4.	Near Pellet Plant	3480	23.10.2023	24.10.2023	1116.47	2000
5.	Annual Cooler Pellet Discharge bin	3481	23.10.2023	24.10.2023	1226.91	2000
6.	Pellet Stock Yard	3490	27.10.2023	28.10.2023	1798.76	2000
<b>III. Sponge Iron Division-1( kiln 1 &amp; 2)</b>						
7.	Control Room SID-I	3524	27.10.2023	28.10.2023	1837.66	2000
8.	Near Product bin	3525	27.10.2023	28.10.2023	1909.52	2000
9.	Coal Feeding Area	3526	27.10.2023	28.10.2023	1743.23	2000
<b>IV. Induction Furnace &amp; Rolling Mill</b>						
10.	IF Office	3492	25.10.2023	26.10.2023	1835.10	2000
11.	TMT Stock Yard	3493	25.10.2023	26.10.2023	426.15	2000
12.	RML Gasifier	3494	25.10.2023	26.10.2023	1838.90	2000
<b>V. Power Plant 25 MW-1</b>						
13.	25 MW ESP	3535	27.10.2023	28.10.2023	1471.35	2000
14.	25 MW ACC	3536	28.10.2023	29.10.2023	1452.79	2000
<b>VI. Site Services</b>						
15.	PGP- Coal handling system	3491	25.10.2023	26.10.2023	864.26	2000
16.	IF Slag Crusher	3523	27.10.2023	28.10.2023	363.58	2000
17.	Main Gate	3557	28.10.2023	29.10.2023	283.93	2000
18.	Fly ash Dump	3474	22.10.2023	23.10.2023	479.34	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	01.04.2023	01.04.2023	01.04.2023	01.04.2023	01.04.2023
5	Calibration Due Date	31.03.2024	31.03.2024	31.03.2024	31.03.2024	31.03.2024

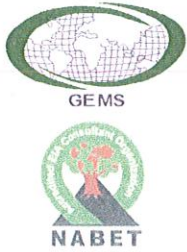
*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

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



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TC-5323

**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/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ <b>VBSS-2</b> Sl. No: Stack Monitoring Kit/ <b>032308</b>
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: <b>Pellet Plant-1 ESP</b>
10	Month of Sampling	: <b>OCTOBER - 2023</b>
11	Date of Sample Received	: -
12	Date of Sample Analysis	: -
13	Date of Sample Analysis completion	: -
14	Report Issued Date	: -
15	Report Number	: -

### 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			-	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	Shut down	Shut down	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C			-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 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>			150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>			100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			50
9	Carbon Monoxide	GEMS/SOP/69	%			-

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

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### 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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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/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ <b>VBSS-2</b> Sl. No: Stack Monitoring Kit/ <b>032308</b>
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: <b>2X100 TPD Sponge iron plant Kiln 1 &amp; 2</b>
10	Month of Sampling	: <b>OCTOBER - 2023</b>
11	Date of Sample Received	: 09.10.2023 & 21.10.2023
12	Date of Sample Analysis	: 09.10.2023 & 21.10.2023
13	Date of Sample Analysis completion	: 10.10.2023 & 22.10.2023
14	Report Issued Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001135F</b>

#### 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	
				09.10.2023	21.10.2023	
	Date of Monitoring					
	Sample Code			3159	3482	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	33	31	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	171	174	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.92	5.90	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	66962	66736	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	44937	44485	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	16.99	17.81	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	64.02	58.64	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	30.0	26.0	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.325	0.214	-

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

*Pooja R*  
Analysed By  
T.R.Pooja  
Chemist

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



#### Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2  
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 13.10.2023
- 11 Date of Sample Analysis : 14.10.2023
- 12 Date of Sample Analysis completion : 14.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001206F**

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>Induction Furnance 1 &amp; 2</b>											
1	Induction Furnance 1	13.10.2023	3311	Electric	30	39	5.45	30	1.0	16.99	50
2	Induction Furnance 2	13.10.2023	3312	Power	32	43	5.68	30	1.0	7.96	50

Sl. No	Induction Furnance 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
1	Induction Furnance 1	22196	21191	-
2	Induction Furnance 2	24145	25575	-

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)

*T.R. Poda*  
Analysed By  
T.R. Poda  
Chemist

*T.R. Poda*  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### Note:

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## GLOBAL ENVIRONMENT & MINING SERVICES

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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/FY24/R018
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**  
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Sampling Location : **Rolling mill reheating furnace**
- 10 Month of Sampling : **OCTOBER - 2023**
- 11 Date of Sample Received : 07.10.2023 & 21.10.2023
- 12 Date of Sample Analysis : 07.10.2023 & 21.10.2023
- 13 Date of Sample Analysis completion : 08.10.2023 & 22.10.2023
- 14 Report Issued Date : **06.11.2023**
- 15 Report Number : **ULR-TC532323000001246F**

#### 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
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
	Date of Monitoring Sample Code			07.10.2023	20.10.2023	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	30	32	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	381	374	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	7.68	7.76	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	13899	14044	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	6325.8	6465.9	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	12.29	18.72	100
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	25.0	32.0	270
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	186.20	118.62	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.027	0.034	-

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

Analysed By  
T.R.Pooja  
Chemist

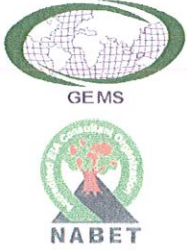
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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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/FY24/R018
3	Sample collected by	:	GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	:	Vayubodhak Stack sampler/ <b>VBSS-2</b> Sl. No: Stack Monitoring Kit/ <b>032308</b>
5	Instrument Details	:	Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
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>OCTOBER - 2023</b>
11	Date of Sample Received	:	-
12	Date of Sample Analysis	:	-
13	Date of Sample Analysis completion	:	-
14	Report Issued Date	:	<b>06.11.2023</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	Shutdown	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C			-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 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 (Part 7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			300
9	Carbon Monoxide	GEMS/SOP/69	%			-

Note: NS- Not Specified. RA: Reaffirmed,

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**  
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 14.10.2023
- 11 Date of Sample Analysis : 14.10.2023
- 12 Date of Sample Analysis completion : 14.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001209F**

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)											
Beneficiation Plant - I											
1	Iron Ore dump hopper	14.10.2023	3317	-	29	35	4.68	25	0.40	17.34	50
2	Iron Ore Screen bin	14.10.2023	3318	-	30	36	4.91	30	0.40	14.53	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	Iron Ore dump hopper	2117	2048	-
2	Iron Ore Screen bin	2222	2140	-

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)

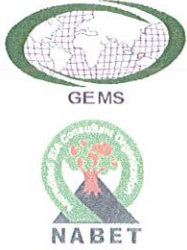
*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

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



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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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2  
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 11.10.2023 & 13.10.2023
- 11 Date of Sample Analysis : 12.10.2023 & 14.10.2023
- 12 Date of Sample Analysis completion : 12.10.2023 & 14.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001183F**

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)											
RMHS											
3	Screen, Coal Crusher (CPU)	11.10.2023	3267	-	32	36	5.19	3.0	0.30	32.68	50
4	Main Crusher	13.10.2023	3268	-	34	38	4.71	35	0.50	11.86	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
3	Screen, Coal Crusher (CPU)	33022	31712	-
4	Main Crusher	3330	3181	-

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)

*T.R. Pooja*  
Analysed By  
T.R. Pooja  
Chemist

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



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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/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ <b>VBSS-2</b> Sl. No: Stack Monitoring Kit/ <b>032308</b>
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Month of Sampling	: <b>OCTOBER - 2023 (1<sup>st</sup> Fort Night)</b>
10	Date of Sample Received	: -
11	Date of Sample Analysis	: -
12	Date of Sample Analysis completion	: -
13	Report Issued Date	: <b>06.11.2023</b>
14	Report Number	: -

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 -I</b>											
5	AGB Main Bag Filter	-	-	---	-	-	-	6.5	0.60	<b>Shutdown</b>	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	-	-	---	-	-	-	3.0	0.30		50
7	Bentonite Powder bin top bag filter	-	-	---	-	-	-	3.0	0.30		50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50		50
9	P-1 Bag Filter	-	-	---	-	-	-	7.0	0.50		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
5	AGB Main Bag Filter	-	-	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	-	-	-
7	Bentonite Powder bin top bag filter	-	-	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	-	-	-

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)

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2  
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (1<sup>st</sup> Fort Night)**
- 10 Date of Sample Received : 11.10.2023
- 11 Date of Sample Analysis : 12.10.2023
- 12 Date of Sample Analysis completion : 12.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001184F**

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											
10	Cooler-1 Discharge & Blending Chute	11.10.2023	3350	---	46	30	4.70	30	1.20	27.14	50
11	Cooler-2 Discharge	-	-	---	-	-	-	30	1.20	-	50
12	Intermediate Bin & Blending	11.10.2023	3268	---	48	31	4.80	30	1.20	30.52	50
13	Product House	-	-	---	-	-	-	30	1.20	-	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
10	Cooler-1 Discharge & Blending Chute	19139	18363	-
11	Cooler-2 Discharge	-	-	-
12	Intermediate Bin & Blending	19546	18708	-
13	Product House	-	-	-

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)

*Poojatr*  
Analysed By  
T.R.Pooja  
Chemist

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



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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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2  
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : 28.10.2023
- 11 Date of Sample Analysis : 28.10.2023
- 12 Date of Sample Analysis completion : 29.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001200F**

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>Induction Furnance 1 &amp; 2</b>											
1	Induction Furnance 1	28.10.2023	3555	Electric	31	40	5.22	30	1.0	6.64	50
2	Induction Furnance 2	28.10.2023	3556	Power	32	43	5.33	30	1.0	11.08	50

Sl. No	Induction Furnance 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
1	Induction Furnance 1	21256	20213	-
2	Induction Furnance 2	25472	23967	-

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)

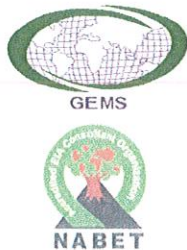
*Pooja*  
Analysed By  
T.R.Pooja  
Chemist

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



### Note:

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Website : www.globalmining.in



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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2  
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : 26.10.2023
- 11 Date of Sample Analysis : 26.10.2023
- 12 Date of Sample Analysis completion : 27.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001201F**

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)											
Beneficiation Plant											
1	Iron Ore dump hopper	26.10.2023	3527	---	32	37	4.75	25	0.40	18.11	50
2	Iron Ore Screen bin	26.10.2023	3528	---	32	36	4.88	30	0.40	16.73	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	Iron Ore dump hopper	2510	2061	-
2	Iron Ore Screen bin	2211	2125	-

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)

*Pooja R*  
Analysed By  
T.R.Pooja  
Chemist

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



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TC-5323

**ANNEXURE-20**  
**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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**  
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : 27.10.2023 & 26.10.2023
- 11 Date of Sample Analysis : 27.10.2023 & 26.10.2023
- 12 Date of Sample Analysis completion : 28.10.2023 & 27.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001083F**

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>RMHS</b>											
3	Screen, Coal Crusher (CPU)	27.10.2023	3540	-	33	38	5.22	3.0	0.30	35.22	50
4	Main Crusher	26.10.2023	3518	-	30	35	4.55	35	0.50	9.79	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
3	Screen, Coal Crusher(CPU)	33238	31752	-
4	Main Crusher	3222	3115	-

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)

*Pooja R*  
Analysed By  
T.R.Pooja  
Chemist

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



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TC-5323

**ANNEXURE-21**  
**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/FY24/R018
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**  
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : -
- 11 Date of Sample Analysis : -
- 12 Date of Sample Analysis completion : -
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : -

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/N m <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Pellet Plant-I</b>											
5	AGB Main Bag Filter	-	-	---	-	-	-	6.5	0.60	<b>Shutdown</b>	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	-	-	---	-	-	-	3.0	0.30		50
7	Bentonite Powder bin top bag filter	-	-	---	-	-	-	3.0	0.30		50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50		50
9	P-1 Bag Filter	-	-	---	-	-	-	7.0	0.50		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
5	AGB Main Bag Filter	-	-	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	-	-	-
7	Bentonite Powder bin top bag filter	-	-	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	-	-	-

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)

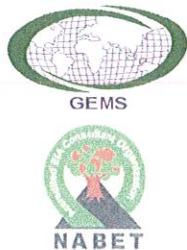
**Authorised Signatory**  
K. Ramakrishna Reddy  
Technical Manager



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TC-5323

ANNEXURE-22  
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/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**  
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023  
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **OCTOBER - 2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : 27.10.2023 & 28.10.2023
- 11 Date of Sample Analysis : 27.10.2023 & 28.10.2023
- 12 Date of Sample Analysis completion : 28.10.2023 & 29.10.2023
- 13 Report Issued Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001137F**

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>											
10	Cooler-1 Discharge & Blending Chute	28.10.2023	3538	---	30	35	4.79	30	1.20	28.03	50
11	Cooler-2 Discharge	-	-	---	-	-	-	30	1.20	-	50
12	Intermediate Bin & Blending	27.10.2023	3539	---	31	36	4.90	30	1.20	28.79	50
13	Product House	-	-	---	-	-	-	30	1.20	-	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
10	Cooler-1 Discharge & Blending Chute	19534	18879	-
11	Cooler-2 Discharge	-	-	-
12	Intermediate Bin & Blending	19016	18308	-
13	Product House	-	-	-

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)

*Pooja R*  
Analysed By  
T.R.Pooja  
Chemist

*NR*  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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TC-5323

ANNEXURE-23  
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/FY24/R018  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Lutron: SL- 4023SD  
Instrument Details : SL No: Q679952  
Month : OCTOBER - 2023  
Report Issue Date : 06.11.2023  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : ULR-TC532323000001141F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	03.10.2023	46.4	58.6	75	42.4	54.8	70
2	Near ATM	03.10.2023	42.5	53.4	75	40.1	58.6	70
3	Transit House	04.10.2023	56.2	60.5	75	51.3	55.3	70
4	CAAQMS Station	04.10.2023	52.2	58.5	75	52.0	56.9	70
5	Gunda Road	05.10.2023	49.2	56.4	75	46.8	52.7	70
6	Gunda Railway Station	05.10.2023	56.5	60.2	75	53.1	58.6	70
7	Bagging Shed	06.10.2023	53.5	59.5	75	51.2	58.2	70
8	Railway Siding	06.10.2023	62.6	68.2	75	56.4	60.1	70
9	4th Gate	07.10.2023	51.5	55.0	75	49.9	53.5	70
10	Bricks Plant	07.10.2023	60.0	70.8	75	58.7	62.1	70
11	Kempuhalla (Wagon Tippler)	09.10.2023	51.2	56.8	75	50.9	54.7	70
12	Danapura Bridge	09.10.2023	53.5	59.0	75	51.8	56.2	70
13	2nd Gate	10.10.2023	52.0	57.2	75	48.1	54.8	70
14	Project Store	10.10.2023	46.0	52.4	75	44.2	50.7	70
15	Dispatch (Truck Parking Area)	11.10.2023	58.6	68.6	75	49.8	62.5	70

#### INFERENCE

As per CPCB Standards,

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

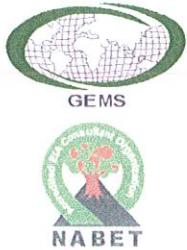
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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TC-5323

**ANNEXURE-24**  
**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/FY24/R018  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Lutron: SL- 4023SD  
Instrument Details : Sl. No: Q679952  
Month : **OCTOBER - 2023**  
Report Issue Date : **06.11.2023**  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : **ULR-TC532323000001149F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	16.10.2023	48.2	63.8	75	46.2	58.1	70
2	Near ATM	16.10.2023	45.5	59.9	75	51.6	54.8	70
3	Transit House	17.10.2023	52.2	58.2	75	52.1	56.4	70
4	CAAQMS Station	17.10.2023	46.2	58.1	75	53.2	54.8	70
5	Gunda Road	18.10.2023	45.6	56.2	75	48.4	53.8	70
6	Gunda Railway Station	18.10.2023	60.2	67.6	75	52.7	58.5	70
7	Bagging Shed	19.10.2023	58.8	66.5	75	50.6	57.4	70
8	Railway Siding	19.10.2023	62.4	70.0	75	54.8	61.9	70
9	4th Gate	20.10.2023	53.2	59.2	75	52.8	58.4	70
10	Bricks Plant	20.10.2023	60.0	72.4	75	59.1	63.5	70
11	Kempuhalla (Wagon Tippler)	21.10.2023	51.2	64.6	75	50.3	57.4	70
12	Danapura Bridge	21.10.2023	53.7	57.1	75	48.8	63.7	70
13	2nd Gate	25.10.2023	52.4	56.6	75	50.1	64.6	70
14	Project Store	25.10.2023	57.4	60.5	75	48.4	54.6	70
15	Dispatch (Truck Parking Area)	25.10.2023	64.8	70.5	75	60.2	64.1	70

### INFERENCE

As per CPCB Standards,

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

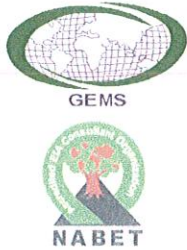
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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TC-5323

**ANNEXURE-25**  
**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/FY24/R018  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Lutron: SL- 4023SD  
Instrument Details : Sl. No: Q679952  
Month : **OCTOBER - 2023**  
Report Issue Date : **06.11.2023**  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Sample Code : 3145,3146,3147,3173,3174 & 3175  
Report No : **ULR-TC532323000001164F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)							
			Day Time			Standard	Night Time			Standard
			Min	Max	Avg		Min	Max	Avg	
1	Danapur Village	03.10.2023	48.2	54.6	51.06	55	37.6	44.1	40.19	45
2	Mariyammana Halli	03.10.2023	47.6	52.0	49.59		38.4	43.2	40.16	
3	Hanumana Halli	03.10.2023	45.8	54.2	53.02		40.1	43.2	42.19	
4	Galemmanagudi	04.10.2023	48.2	54.6	52.95		40.5	43.8	41.59	
5	Gunda Village	04.10.2023	47.2	54.2	51.36		35.8	40.2	38.49	
6	Gunda Tanda Village	04.10.2023	46.9	54.3	51.71		36.9	42.8	39.84	

#### INFERENCE

As per CPCB Standards,

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

#### 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

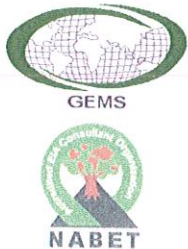
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### Note:

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## GLOBAL ENVIRONMENT & MINING SERVICES

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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/FY24/R018
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	: 3319
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023
15	Report Number	: ULR-TC532323000001210F

### Results

Sl. No.	Parameters	Protocol	Unit	Danapur Village (GW1)	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)	-	7.53	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2500	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1550	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	<1.0	-	-
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	202.84	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	314.27	-	-
9.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	122.4	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	63.18	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	560.0	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	477.97	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.37	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	17.82	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	466.4	200	600

#### Note:

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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	0.11	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	0.331	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.250	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: 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.

**Analysed By**  
Priyanka B M  
Jr.Chemist

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



#### Note:

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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/FY24/RO18
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	: 3319
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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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/FY24/R018
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	: <b>3321</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001212F</b>

## 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)	-	<b>7.82</b>	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	<b>2900</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1798</b>	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.6</b>	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<b>&lt;1.0</b>	-	-
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	<b>169.66</b>	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	<b>Nil</b>	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	<b>492.26</b>	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	<b>0.0</b>	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	<b>106.08</b>	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>55.89</b>	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	<b>490.0</b>	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl-	mg/L	<b>537.10</b>	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	<b>0.98</b>	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	<b>18.32</b>	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	<b>614.8</b>	200	600

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### 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	0.14	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	0.228	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.120	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: 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>
------------------	--

**Analysed By**  
**Priyanka B M**  
**Jr.Chemist**

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



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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/FY24/RO18
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	: 3321
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

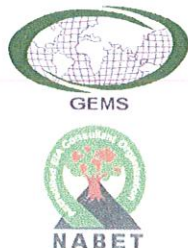
Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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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/FY24/R018
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	: <b>3322</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001213F</b>

## **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)	-	<b>7.91</b>	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	<b>2200</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1364</b>	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.4</b>	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<b>&lt;1.0</b>	-	-
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	<b>112.79</b>	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	<b>Nil</b>	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	<b>154.34</b>	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	<b>0.0</b>	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	<b>124.03</b>	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>65.12</b>	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	<b>572.0</b>	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	<b>448.40</b>	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	<b>1.55</b>	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	<b>15.54</b>	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	<b>466.4</b>	200	600

### **Note:**

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(Consulting Engineers, Mine designers, Geologist &amp; Surveyors)

3<sup>rd</sup> Main Road, Basaveswara Badavane,**HOSAPETE - 583201**, Dist., Vijayanagara (Karnataka)

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**ANNEXURE-28**

17.	Acidity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	<b>Nil</b>	-	-
18.	Total Iron as Fe	APHA 23rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	<b>0.12</b>	0.30	NR
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>&lt;0.02</b>	0.02	NR
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>&lt;0.1</b>	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>0.320</b>	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>0.238</b>	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>&lt;0.01</b>	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<b>&lt;0.01</b>	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<b>&lt;0.05</b>	0.05	NR

**Note: GW3: GalemmanaGudi 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.**

  
**Analysed By**  
 Priyanka B M  
 Jr.Chemist

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

**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/FY24/R018
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	: 3322
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

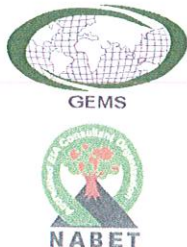
Note: Ab: Absent, NR: No Relaxation

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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**HOSAPETE - 583201**, Dist., Vijayanagara (Karnataka)

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TC-5323

**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/FY24/R018
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	: <b>3320</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001211F</b>

## Results

Sl. No	Parameters	Protocol	Unit	Mariyammana Halli Village (GW4)	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)	-	<b>7.85</b>	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	<b>2000</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1240</b>	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.4</b>	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<b>&lt;1.0</b>	-	-
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	<b>129.67</b>	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	<b>Nil</b>	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	<b>276.89</b>	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	<b>0.0</b>	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	<b>102.0</b>	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>46.17</b>	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	<b>440.0</b>	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	<b>340.0</b>	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	<b>0.20</b>	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	<b>20.42</b>	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	<b>466.40</b>	200	600

### 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-29


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	0.248	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.228	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:** MariyammanaHalli 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.

  
**Analysed By**  
 Priyanka B M  
 Jr.Chemist

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

#### Note:

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e-mail : gems\_hpt@yahoo.com

Website: www.globalmining.in

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/FY24/R018
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	: <b>3320</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

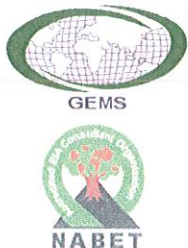
  
**Analysed By**  
 Priyanka B M  
 Jr.Chemist

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



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TC-5323

**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/FY24/R018
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	: <b>3323</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001214F</b>

## Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	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)	-	<b>7.87</b>	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	<b>700</b>	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>434</b>	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.4</b>	1	5
5.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<b>&lt;1.0</b>	-	-
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	<b>28.02</b>	200	400
7.	Phosphorus as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<b>Nil</b>	-	-
8.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	<b>48.85</b>	-	-
9.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	<b>0.0</b>	-	-
10.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	<b>48.96</b>	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>26.73</b>	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	<b>230.0</b>	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	<b>68.98</b>	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	<b>0.20</b>	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	<b>9.62</b>	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	<b>307.4</b>	200	600

### Note:

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TC-5323

### ANNEXURE-30


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	0.06	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	0.228	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.108	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: 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.

  
**Analysed By**  
 Priyanka B M  
 Jr.Chemist

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



#### 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-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/FY24/R018
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	: 3323
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



- 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)

3<sup>rd</sup> Main Road, Basaveswara Badavane,

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TC-5323

**ANNEXURE-31**  
**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/FY24/R018
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	: <b>3324</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>
15	Report Number	: <b>ULR-TC532323000001215F</b>

## Results

Sl. No	Parameters	Protocol	Unit	Gunda Village (GW6)	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)	-	<b>7.54</b>	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	<b>2000</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1200</b>	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.1</b>	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<b>&lt;1.0</b>	-	-
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	<b>102.59</b>	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	<b>Nil</b>	-	-
8.	Sodium as Na	APHA 23 <sup>rd</sup> Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	<b>174.65</b>	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	<b>0.0</b>	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	<b>91.39</b>	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>49.08</b>	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	<b>426.0</b>	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	<b>261.16</b>	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	<b>0.70</b>	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	<b>11.32</b>	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	<b>445.2</b>	200	600

### Note:

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### ANNEXURE-31

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	0.07	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	0.168	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.070	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.

**Analysed By**  
Priyanka B M  
Jr.Chemist

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



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ANNEXURE-31  
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/FY24/RO18
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	: <b>3324</b>
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: <b>06.11.2023</b>

### 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	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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ANNEXURE-32  
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/FY24/RO18
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	: 3325
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023
15	Report Number	: ULR-TC532323000001216F

### 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)	-	7.78	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	110	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	66	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.0	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<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	11.95	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	0.0	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	4.08	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	2.43	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	20.0	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	19.71	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	0.29	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	0.96	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	42.4	200	600

#### Note:

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GEMS



NABET

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**ANNEXURE-32**

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	0.03	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	<0.01	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	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
26.	Mercury as Hg	APHA 23rd 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.**

  
**Analysed By**  
 Priyanka B M  
 Jr.Chemist

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

**Note:**

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ANNEXURE-32  
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/FY24/RO18
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	: 3325
10	Date of Sampling	: 14.10.2023
11	Sample Received	: 14.10.2023
12	Date of Analysis	: 14.10.2023
13	Date of Analysis Completion	: 21.10.2023
14	Report Issue Date	: 06.11.2023

### 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 23rd Edition 2017 4500 B-B (p.no.4-25 to 4-26)	mg/L	<0.5	0.5	1.0
11.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation,

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



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TC-5323

**ANNEXURE-33**  
**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/FY24/RO18
- 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 : 10.10.2023
- 10 Sample Received : 10.10.2023
- 11 Date of Analysis : 11.10.2023
- 12 Date of Analysis Completion : 14.10.2023
- 13 Report Issue Date : **06.11.2023**
- 14 Report Number : **ULR-TC532323000001224F**

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
Sample code			-	3333	3334	3335	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.47	7.36	7.67	6.5 to 8.5
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	20	38	3.6	<20
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	8.0	6.0	<10
4.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	20.8	30.4	21.4	<50
5.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	1.0	3.0	2.0	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

**Analysed By**  
Priyanka B M  
Jr.Chemist

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

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ANNEXURE-33  
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/FY24/RO18
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	: 10.10.2023
10	Sample Received	: 10.10.2023
11	Date of Analysis	: 11.10.2023
12	Date of Analysis Completion	: 14.10.2023
13	Report Issue Date	: <b>06.11.2023</b>

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		<b>Sample code</b>	-	3333	3334	3335	
1.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	5	5	-
2.	Odour	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agreeable	Agreeable	Agreeable	-
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	1.32	0.74	1.12	-

**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

**Analysed By**  
Priyanka B M  
Jr.Chemist

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



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TC-5323

ANNEXURE-34  
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/FY24/R018
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	: 14.10.2023
10	Sample Received	: 14.10.2023
11	Date of Analysis	: 16.10.2023
12	Date of Analysis Completion	: 21.10.2023
13	Report Issue Date	: <b>06.11.2023</b>
14	Report Number	: <b>ULR-TC532323000001217F</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		
				3326	3327	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.42	8.83	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	1.1	1.2	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	20.0	20.0	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	2.0	2.1	10

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager



#### 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-35  
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/FY24/RO18
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	: 14.10.2023
10	Sample Received	: 14.10.2023
11	Date of Analysis	: 14.10.2023
12	Date of Analysis Completion	: 21.10.2023
13	Report Issue Date	: 06.11.2023

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
Sample code				3328	3329	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.98	7.99	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	0.0	3.0
3.	Fluorides as F	APHA 23 <sup>RD</sup> Edition 4500F- D (Pg. No.4-90 to 4-91)	mg/L	BDL	1.02	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
5.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	6.0	6.1	>5.0
6.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	6	5	300
7.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
8.	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
9.	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
10.	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
11.	Total Coliform Organisms					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	-

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

Analysed By  
Priyanka B M  
Jr.Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
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ANNEXURE-36  
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/FY24/RO18
- 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 : 14.10.2023
- 10 Sample Received : 14.10.2023
- 11 Date of Analysis : 14.10.2023
- 12 Date of Analysis Completion : 21.10.2023
- 13 Report Issue Date : **06.11.2023**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
Sample code				3330	3331	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.19	8.18	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	0.0	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	0.84	0.01	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
5.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	4.8	5.0	>5.0
6.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	6	300
7.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
8.	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
9.	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
10.	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
11.	Total Coliform Organisms,					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	-

Note: BDL-Below detectable Limit

INFERENCE: The measured values are within the Limit.

**Analysed By**  
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ANNEXURE-37  
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/FY24/R018
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	: 14.10.2023
10	Sample Received	: 14.10.2023
11	Date of Analysis	: 14.10.2023
12	Date of Analysis Completion	: 21.10.2023
13	Report Issue Date	: 06.11.2023

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
Sample Code				3332	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.71	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	BDL	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
5.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	6.0	>5.0
6.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	300
7.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	0.05
8.	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
9.	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
10.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	1.0
11.	Total Coliform Organisms,				
	Total Coli forms	IS : 15185 : 2016	MPN/100 ml	Absent	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/100 ml	Absent	-

Note: BDL-Below detectable Limit

INFERENCE: The measured values are within the Limit.

Analysed By  
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