



# BMM Ispat Ltd.,

## ENVIRONMENTAL MONITORING REPORT



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

**DECEMBER - 2023**

**Prepared by**



**GLOBAL** ENVIRONMENT & MINING SERVICES

**NABL & MOEFCC 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.

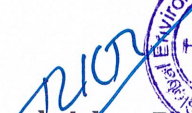
As part of the conditions and inherent concern on health of the employees and surroundings **M/s. BMM Ispat Ltd.**, as appointed **M/s. Global Environment & Mining Services, Hosapete**, to carry out the environmental pollution monitoring on AAQ Monitoring, Fugitive monitoring, Noise Monitoring, Water Analysis & Stack monitoring 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, Noise Monitoring, Water Analysis & Stack monitoring as per the CFO. These monitoring has been carried out in a frequency as mentioned in the CFO and the same report is being submitted to the Board.

We sincerely thank to officials of **M/s. BMM Ispat Ltd.**, for their valuable co-ordination & support during the sampling and reporting.

**Place: Hosapete**  
**Date: 06.01.2024**

**for GLOBAL Environment & Mining Services**

  
**K. Ramakrishna Reddy**  
**(Technical Manager)**





## **1.0 EXECUTIVE SUMMARY**

### **1.1 INTRODUCTION**

The journey of the BMM Group is a reflection of the path tread by every entrepreneur who believes in the human potential and one's own ability to bring about a life affirming change that transcends time. BMM Group was born out of this committed belief of Late Shri. Udai chand Singhi.

Entrenched in the Indian ethos, with an astute understanding of market needs, values and sensibilities **Mr. Dinesh Kumar Singhi** inherited the legacy from his father and has built the BMM Group on sound fundamentals since 1998. He steered the company towards growth by being the first mining company to establish a power generation plant for captive use, and creating a steel plant from the captive ore mine. Over the last 12 years, BMM has been able to add value to every relationship under his able and dynamic leadership.

Today, BMM is a 4900 Crores Company due to its focus on market orientation and optimal usage of technology to achieve process efficiency and value addition. BMM has always believed in the principle of sharing and hence continues to transfer this benefit derived from sustained growth to its employees, partners and associates. The unique value proposition that defines the very fabric of the BMM culture is the firm's belief in unleashing this 'potential in tones' in terms of its human capital, continuous growth and consistent benefits to its stakeholders.

The human potential at BMM is reflected in the depth of domain expertise across diverse sectors and dynamism of youth at various levels in the Organization. Business operations lead by professionals with decades of market understanding and a dynamic team enables BMM to deliver superior product quality. This human potential keeps BMM attuned to scaling new heights and meeting customer expectations. While consistently adding value to its partners, BMM is sensitive to its responsibility towards the environment by implementing best practices in its Business Operations and contribution to society through various social Endeavors.

BMM has a commitment of being a good Corporate Citizen and is committed to achieving business goals through ethical means. BMM hence has been able to have deeper relevance to society by creating value that is inclusive and truly benefits all.





## 1.2 PROMOTERS OF THE PROJECT

BMM Group, one of the leading Steel, Power & Mining companies in India that has achieved the present level under the leadership and guidance of **Sri. Dinesh Kumar Singhi**, the Founder & Chairman of the group, is promoting the project. His vision is to globalize the company business and do value addition by operating responsibly and in a sustainable manner in exploring, exploiting, excavating and processing minerals followed by setting up steel plant facilities.

**BMM** is a step towards forward integration has set up new merchant Bar Mill. The works is located at:

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

## 1.3 Site Location

BMM ISPAT LIMITED is located at Danapur about 15 Kms away from Hosapete in Karnataka. The plant site can be connected by national highway, viz. NH-13. The plant is 1 km away from the NH-13 near Danapur village. The nearest railway station is Hospet; Bangalore is at a distance of 300 kms. Seaport is Belikere and Karwar, the nearest Airport is in the private sector belonging to JSW, a Jindal Group company at Thoranagallu (Vidyanagara).



M/s. BMM ISPAT Ltd., Has accorded Environmental Clearance for 2.0 MTPA Integrated Steel Plant, with the following facilities.

S.N.	Items	Capacity
1	Iron ore beneficiation plant	4.70 MTPA
2	Palletizing Plant	2.40 MTPA
3	DRI Plant	0.70 MTPA
4	Coke Oven	0.80 MTPA
5	Sinter Plant	2.50 MTPA
6	Blast furnace	1.70 MTPA
7	EAF & BOF Steel making shop	2.30 MTPA
8	Continuous casting machines Slab Caster Billet Caster	1.10 MTPA 1.10 MTPA
9	Rolling mills: Hot strip mill Structural/wire rods	1.00 MTPA 1.00 MTPA
10	Oxygen Plant	2x500 TPD
11	Calcining	1,080 TPD
12	Cement Plant	1.40 MTPA
13	Power Plant	230 MW
14	Sponge Iron Division -1	2 x 100 TPD
15	Induction furnace (billets)	9000 tonnes/month
16	Rolling Mill (TMT rods)	9000 tonnes/month
17	Captive Power Plant	25 MW

Out of the above units, presently **4 x 500 TPD Sponge Iron Plants** and **1X70 MW Thermal Power Plants** have been commissioned on August 2011. Beneficiation plant-2, Pellet Plant-2 are commissioned on March 2012. 2X70 MW Thermal based power plants have commissioned on Jan 2013, EAF, Steel Making Shop, CCM, Rolling Mill, Oxygen plants are commissioned on August 2015. Remaining units are under various stages of implementation.

Hence environmental pollution monitoring is being carried out for 4 x 500 TPD sponge iron plants, 1X70 MW Thermal Power Plant, 1.3MTPA Beneficiation, 1.2MTPA Pellet Plant, 2X70MW Power plant, SMS, and RML.

**1.4** The report includes environmental monitoring data collected at above site for the month of **DECEMBER-2023**. The Parameters monitored are:

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



## **2.0 SCOPE AND METHODOLOGY**

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### **2.1 PREAMBLE**

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

### **2.2 AMBIENT AIR QUALITY**

To assess the ambient air quality status, monitoring stations were identified 6 Location plant site. Work zone air monitoring stations were identified in the major work spots. Based on the production activities the parameters chosen for ambient air quality. Were Particulate Matter PM<sub>10</sub>, Particulate Matter (size less than 2.5µm) PM<sub>2.5</sub>.

#### **2.2.1 PARTICULATE MATTER (PM<sub>10</sub>)(size less than 10µm).**

##### **Purpose**

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

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

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

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

##### **Sampling**

Field Sampling - Tilt back the inlet and secure it according to manufacturer's instructions. Loosen the faceplate wing nuts and remove the faceplate. Remove the filter from its jacket and centre 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 (PM<sub>2.5</sub>)(size less than 2.5µm)**

### **Purpose**

The purpose of this protocol is to provide guidelines for monitoring and analysis of Particulate Matter PM<sub>2.5</sub> in ambient air.

**Reference Method:** USEPA 2001 Method of Measurement of Air Pollution:

Particulate Matter (PM<sub>2.5</sub>) 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 PM<sub>2.5</sub> 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 PM<sub>2.5</sub> 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 dihydrochloride (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 analysed 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 2µl of sample from the amber vial using standard gas tight syringe and inject in the Capillary GC-FID instrument for analysis. Record the resulting concentration of each PAH compound including B(a)P. A 10ng/µl concentration B(a)P or other PAH standards are to be injected in GC/FID instrument with every batch of samples. As a control Internal Standard of 10 ng/µl conc. is added to each sample prior to the analysis in case of internal calibration is used.

#### **2.2.8 Benzene**

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



**Principle of the Method**

IS 5182 (Part 11): 2006, the charcoal tubes are available in different sizes and contain varying amount of activated charcoal. The ambient air is sucked through the tube using a low flow sampler used for collection of BTX sample in a way that results in an enrichment of the relevant substances in the activated charcoal. Desorption of the adsorbed benzene is done using carbon disulphide (CS<sub>2</sub>). The substances desorbed in the CS<sub>2</sub> are analyzed by capillary gas chromatography. A flame ionization detector (FID) is used for analysis while quantification is performed using the internal/external standard.

**Gas Chromatograph**

Any suitable gas chromatograph with flame ionization detector (FID) with fused silica capillary columns having a length of 25 m or more, an internal diameter of 320  $\mu$ m or below and with a stationary phase film thickness less than 1.5  $\mu$ m as follows or equivalent may be recommended.

**Sampling**

Selection of Sorbent Tube - Samples are collected in glass sampling tube filled with an 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 analysed 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 analysed 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 litres is adequate for its proper flushing out. The apparatus shall include facilities for the visual inspection of results and also for their recording. The scale shall be divided into steps of 1.0 percent full scale division (fsd).

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

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

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

**Principle of the method**

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

**Sampling procedure**

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

### **3.0 Fugitive Emission Monitoring**

Fugitive air quality was monitored 40 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.

### **4.0 Stack Monitoring**

Stack Monitoring was Collected 60 Sample from Vayubodhan Stack sampler VSS1 stack monitoring was used for drawing the flue gas. Sulphur dioxide and oxides of Nitrogen in the flue gas was sampled by bubbling flue gas solution respectively and the analyses 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.

#### **4.1 Stack Emissions Monitoring Methodology**

##### **Sampling Procedure**

##### **Pre-Sampling Activities**

Weigh the properly conditioned thimble/filter and place it into the clean, air tight Container. Designate appropriate label or ID No. to each thimble/filter container. Particulate matter emission of "Stack Monitoring – Material and Methodology for is kinetic Sampling.

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

#### **4.2 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.

#### **4.3 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.



**DATA ANALYSIS****4.4 BUFFERZONE AMBIENT AIR QUALITY STATUS****Danapur Village (A1)**

At this location, average of PM10, PM2.5, SO2, NO2 values Average 68.79, 16.55, 9.18 & 10.86 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 52.65, 12.61, 7.51 & 8.80 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 72.02, 18.61, 10.03 & 12.18 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 69.87, 20.14, 9.89 & 11.37 µg/m<sup>3</sup> respectively. All above the values were found within the Limits. Results given in **Annexure-4**.

**G Nagalapura Village (A5)**

At this location, average of PM10, PM2.5, SO2, NO2 values Average 49.58, 9.61, 6.70 & 7.77 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 63.82, 15.86, 7.97 & 9.66 µg/m<sup>3</sup> respectively. All above the values were found within the Limits. Results given in **Annexure-6**.

**5.1 FUGITIVE DUST CONCENTRATION**

Fortnightly fugitive air quality was monitored all plant area SPM value minimum 183.14  $\mu\text{g}/\text{m}^3$ , maximum value 1973.18  $\mu\text{g}/\text{m}^3$  and average value 902.38  $\mu\text{g}/\text{m}^3$ . The Fugitive air quality 1<sup>st</sup> & 2<sup>nd</sup> Fortnight Results given in **Annexure-7 to Annexure-10**.

**5.2 STACK MONITORING**

Stack emission level was monitored all chimneys' PM values ( $\text{mg}/\text{Nm}^3$ ) 1<sup>st</sup> and 2<sup>nd</sup>Fortnight Minimum Value 4.28  $\text{mg}/\text{Nm}^3$ , Maximum Value 42.62  $\text{mg}/\text{Nm}^3$  & Average Value 27.59  $\text{mg}/\text{Nm}^3$ . 1<sup>st</sup> & 2<sup>nd</sup> Fortnight Results are given in **Annexure-11 to Annexure-37**.

**5.3 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 / Lutron) The Day & Night time noise level values were ranging between 40.7 to 71.5 dB (A) and 39.2 to 63.4 dB (A). The noise level status is given in **Annexure-38 to Annexure-39**.

**5.4** 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-41 to Annexure-52**.

**5.5 CONCLUSION**

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



## GLOBAL ENVIRONMENT & MINING SERVICES

(Consulting Engineers, Mine designers, Geologist & Surveyors)

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

Ph : 08394 355369

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Website : www.globalmining.in



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 : **DECEMBER- 2023**  
 Location : **A1-Danapur Village**  
 Duration of Monitoring : 24 Hour  
 Report Issued Date : **06.01.2024**  
 Report Number : **ULR-TC532323000001543F**

#### RESULTS

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.12.2023	08.12.2023	4178	73.05	100	18.59	60	8.26	80	10.06	80
08.12.2023	09.12.2023	4218	66.06		11.64		9.84		9.72	
13.12.2023	14.12.2023	4324	78.10		17.82		8.12		10.88	
14.12.2023	15.12.2023	4326	69.48		14.95		7.38		9.34	
21.12.2023	22.12.2023	4446	84.19		23.27		11.86		13.12	
22.12.2023	23.12.2023	4474	53.70		14.71		9.48		11.34	
28.12.2023	29.12.2023	4585	58.51		12.63		8.12		9.28	
29.12.2023	30.12.2023	4600	67.22		18.80		10.34		13.12	
Average			68.79		16.55		9.18		10.86	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / EI-142 NL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 197-C-21	PM2.5/PM10 Sampler / 158-K-20
4	Calibration Date	08.07.2023	06.03.2023
5	Calibration Due Date	24.07.2024	05.03.2024

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

Analysed By  
Priyanka B M  
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 15 Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
- This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not use any advertising media without special permission in writing.
- Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
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## GLOBAL ENVIRONMENT & MINING SERVICES

(Consulting Engineers, Mine designers, Geologist & Surveyors)

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

### ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.  
 Customer Reference : WO/ADMIN/FY24/RO18  
 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 : **DECEMBER- 2023**  
 Location : **A1-Danapur Village**  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : **06.01.2024**

#### RESULTS


Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	07.12.2023	4178	0.10	4.0
2	08.12.2023	4218	<0.01	
3	13.12.2023	4324	0.16	
4	14.12.2023	4326	<0.01	
5	21.12.2023	4446	<0.01	
6	22.12.2023	4474	0.10	
7	28.12.2023	4585	<0.01	
8	29.12.2023	4600	<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
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 Analysed By  
 Priyanka B M  
 Chemist

  
 Authorised Signatory  
 K. Ramakrishna Reddy  
 Technical Manager

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TC-5323

**ANNEXURE-02**  
**GEMS-LD/TF/11/01****ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA**

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.  
 Customer Reference : WO/ADMIN/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 : **DECEMBER- 2023**  
 Location : **A2-Mariyammanahalli Village**  
 Duration of Monitoring : 24 Hour  
 Report Issued Date : **06.01.2024**  
 Report Number : **ULR-TC532323000001513F**

**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
04.12.2023	05.12.2023	4121	61.20	100	12.92	60	7.12	80	9.86	80
05.12.2023	06.12.2023	4138	59.35		10.35		9.54		10.22	
11.12.2023	12.12.2023	4262	54.51		11.92		6.28		7.54	
12.12.2023	13.12.2023	4271	50.19		15.27		8.16		10.06	
18.12.2023	19.12.2023	4369	48.66		10.28		7.54		8.28	
19.12.2023	20.12.2023	4392	33.24		12.31		6.28		7.36	
25.12.2023	26.12.2023	4531	52.44		14.37		8.12		8.94	
26.12.2023	27.12.2023	4548	61.63		13.46		7.06		8.12	
Average			52.65		12.61		7.51		8.80	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Greentech instruments / GTI -151-N	Enviro instruments / EI-133
3	Serial No	466-DTE-2023	PM2.5 /PM10 Sampler / 159-K-20
4	Calibration Date	15.05.2023	06.03.2023
5	Calibration Due Date	14.05.2024	05.03.2024

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

**Analysed By**  
 Priyanka B M  
 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-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 : DECEMBER-2023  
 Location : A2-Mariyammanahalli Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.01.2024


#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	04.12.2023	4121	0.16	4.0
2	05.12.2023	4138	0.12	
3	11.12.2023	4262	0.14	
4	12.12.2023	4271	0.18	
5	18.12.2023	4369	0.12	
6	19.12.2023	4392	0.10	
7	25.12.2023	4531	0.10	
8	26.12.2023	4548	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
-----------	---

  
 Analysed By  
 Priyanka B M  
 Chemist

  
 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	: <b>DECEMBER- 2023</b>
Location	: <b>A3-Hanumanahalli Village</b>
Duration of Monitoring	: 24 Hour
Report Issued Date	: <b>06.01.2024</b>
Report Number	: <b>ULR-TC532323000001542F</b>

#### RESULTS

Parameters			PM <sub>10</sub> [µg/m <sup>3</sup> ]		PM <sub>2.5</sub> [µg/m <sup>3</sup> ]		SO <sub>2</sub> [µg/m <sup>3</sup> ]		NO <sub>2</sub> [µg/m <sup>3</sup> ]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.12.2023	08.12.2023	4179	88.13	100	26.15	60	9.28	80	13.26	80
08.12.2023	09.12.2023	4219	76.32		19.18		8.12		10.54	
13.12.2023	14.12.2023	4325	69.67		16.17		10.36		13.1	
14.12.2023	15.12.2023	4327	64.13		13.58		12.48		14.12	
21.12.2023	22.12.2023	4447	68.74		16.75		9.58		10.06	
22.12.2023	23.12.2023	4475	76.59		20.17		11.26		13.72	
28.12.2023	29.12.2023	4586	59.96		18.12		8.46		10.48	
29.12.2023	30.12.2023	4601	72.62		18.79		10.68		12.12	
Average			72.02		18.61		10.03		12.18	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / EI-142 NL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 197-C-21	PM2.5 / PM10 Sampler / 160-K-20
4	Calibration Date	08.07.2023	06.03.2023
5	Calibration Due Date	24.07.2024	05.03.2024

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

Analysed By  
Priyanka B M  
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 : DECEMBER-2023  
 Location : A3-Hanumanahalli Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.01.2024

#### RESULTS


Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	07.12.2023	4179	0.16	4.0
2	08.12.2023	4219	0.12	
3	13.12.2023	4325	0.10	
4	14.12.2023	4327	0.10	
5	21.12.2023	4447	0.12	
6	22.12.2023	4475	0.14	
7	28.12.2023	4586	0.10	
8	29.12.2023	4601	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
-----------	---

  
 Analysed By  
 Priyanka B M  
 Chemist

  
 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 : DECEMBER- 2023  
Location : A4-Galemmanagudi Village  
Duration of Monitoring : 24 Hour  
Report Issue Date : 06.01.2024  
Report Number : ULR-TC532323000001514F

#### 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
04.12.2023	05.12.2023	4122	70.11	100	25.97	60	9.54	80	12.22	80
05.12.2023	06.12.2023	4139	78.44		21.95		12.16		12.68	
11.12.2023	12.12.2023	4263	56.22		12.78		10.54		12.06	
12.12.2023	13.12.2023	4272	62.14		19.21		8.06		10.44	
18.12.2023	19.12.2023	4370	66.37		21.00		11.34		12.64	
19.12.2023	20.12.2023	4393	70.29		20.61		10.02		10.97	
25.12.2023	26.12.2023	4532	74.00		17.31		9.34		9.86	
26.12.2023	27.12.2023	4549	81.41		22.26		8.12		10.12	
Average			69.87		20.14		9.89		11.37	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / EI-142 NL	Enviro instruments / EI-133
3	Serial No	R.D.S./198-C-21	PM2.5 /PM10 Sampler / 158-K-20
4	Calibration Date	08.07.2023	06.03.2023
5	Calibration Due Date	07.07.2024	05.03.2024

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

Analysed By  
Priyanka B M  
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-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 : DECEMBER-2023  
 Location : A4-Galemmanagudi Village  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : 06.01.2024

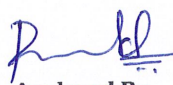
#### RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	04.12.2023	4122	0.16	4.0
2	05.12.2023	4139	0.12	
3	11.12.2023	4263	0.10	
4	12.12.2023	4272	0.12	
5	18.12.2023	4370	0.10	
6	19.12.2023	4393	0.10	
7	25.12.2023	4532	0.12	
8	26.12.2023	4549	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
-----------	---

  
 Analysed By  
 Priyanka B M  
 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





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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/RO18
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	: <b>DECEMBER- 2023</b>
Location	: <b>A5-G Nagalapura Village</b>
Duration of Monitoring	: 24 Hour
Report Issue Date	: <b>06.01.2024</b>
Report Number	: <b>ULR-TC532323000001515F</b>

**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
04.12.2023	05.12.2023	4123	51.74	100	7.35	60	6.12	80	6.94	80
05.12.2023	06.12.2023	4140	42.66		9.23		8.34		9.28	
11.12.2023	12.12.2023	4264	44.06		7.16		6.54		7.68	
12.12.2023	13.12.2023	4273	50.66		11.74		5.18		5.82	
18.12.2023	19.12.2023	4371	54.42		13.53		6.08		7.74	
19.12.2023	20.12.2023	4394	50.81		8.19		5.86		7.02	
25.12.2023	26.12.2023	4533	52.69		7.41		7.12		8.44	
26.12.2023	27.12.2023	4550	49.61		12.24		8.34		9.26	
Average			49.58		9.61		6.70		7.77	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / EI-142 NL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 198-C-21	PM2.5 / PM10 Sampler / 159-K-20
4	Calibration Date	08.07.2023	06.03.2023
5	Calibration Due Date	24.07.2024	05.03.2024

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

**Analysed By**  
Priyanka B M  
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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## GLOBAL ENVIRONMENT & MINING SERVICES

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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 : **DECEMBER-2023**  
 Location : **A5- G Nagalapura Village**  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : **06.01.2024**

#### RESULTS


Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	04.12.2023	4123	<0.01	4.0
2	05.12.2023	4140	<0.01	
3	11.12.2023	4264	<0.01	
4	12.12.2023	4273	<0.01	
5	18.12.2023	4371	<0.01	
6	19.12.2023	4394	<0.01	
7	25.12.2023	4533	<0.01	
8	26.12.2023	4550	<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
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**Analysed By**  
 Priyanka B M  
 Chemist

  
**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	: <b>DECEMBER- 2023</b>
Location	: <b>A6-Gunda Tanda Village</b>
Duration of Monitoring	: 24 Hour
Report Issue Date	: <b>06.01.2024</b>
Report Number	: <b>ULR-TC532323000001516F</b>

#### 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
04.12.2023	05.12.2023	4124	67.37	100	15.24	60	7.82	80	9.16	80
05.12.2023	06.12.2023	4141	71.95		17.17		6.78		8.04	
11.12.2023	12.12.2023	4265	58.11		15.49		8.16		10.12	
12.12.2023	13.12.2023	4274	62.09		19.03		9.02		11.34	
18.12.2023	19.12.2023	4372	66.37		16.81		8.54		10.68	
19.12.2023	20.12.2023	4395	64.95		15.88		7.68		9.44	
25.12.2023	26.12.2023	4534	56.75		12.24		8.12		10.38	
26.12.2023	27.12.2023	4551	63.00		15.06		7.66		8.12	
Average			63.82		15.86		7.97		9.66	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / EI-142 NL	Enviro instruments / EI-133
3	Serial No	R.D.S./200-C-21	PM2.5 /PM10 Sampler / 160-K-20
4	Calibration Date	08.07.2023	06.03.2023
5	Calibration Due Date	07.07.2024	05.03.2024

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

Analysed By  
Priyanka B M  
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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**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/RO18  
 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 : **DECEMBER-2023**  
 Location : **A6-Gunda Tanda Village**  
 Duration of Monitoring : 1 Hour  
 Report Issued Date : **06.01.2024**

#### RESULTS


Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m <sup>3</sup> ]	Standard
1	04.12.2023	4124	<0.01	4.0
2	05.12.2023	4141	<0.01	
3	11.12.2023	4265	<0.01	
4	12.12.2023	4274	<0.01	
5	18.12.2023	4372	<0.01	
6	19.12.2023	4395	<0.01	
7	25.12.2023	4534	<0.01	
8	26.12.2023	4551	<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

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

  
**Analysed By**  
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 Chemist

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

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

### FORTNIGHTLY FUGITIVE AIR QUALITY MONITORING DATA

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/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	: DECEMBER-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	: 06.01.2024
10	Report Number	: GEMS/BMM/FM/2023-24/1549

### 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	4182	07.12.2023	08.12.2023	682.29	2000
2.	Main Crusher	4180	07.12.2023	08.12.2023	323.67	2000
3.	Iron Ore Screen	4181	07.12.2023	08.12.2023	847.38	2000
<b>II. Pellet Plant-1</b>						
4.	Near Pellet Plant	4183	07.12.2023	08.12.2023	564.20	2000
5.	Annual Cooler Pellet Discharge bin	4184	07.12.2023	08.12.2023	575.40	2000
6.	Pellet Stock Yard	4205	08.12.2023	09.12.2023	876.80	2000
<b>III. Sponge Iron Division-1 ( kiln 1 &amp; 2 )</b>						
7.	Control Room SID-1	4227	09.12.2023	09.12.2023	1916.65	2000
8.	Near Product bin	4228	09.12.2023	09.12.2023	1307.88	2000
9.	Coal Feeding Area	4229	09.12.2023	09.12.2023	1802.42	2000
<b>IV. Induction Furnace &amp; Rolling Mill – 1</b>						
10.	IF Office	4206	08.12.2023	09.12.2023	1552.39	2000
11.	TMT Stock Yard	4207	08.12.2023	09.12.2023	308.11	2000
12.	RML Gasifier	4208	08.12.2023	09.12.2023	917.42	2000
<b>V. Power Plant 25 MW-1</b>						
13.	25 MW ESP	4230	09.12.2023	09.12.2023	857.88	2000
14.	25 MW ACC	4257	11.12.2023	12.12.2023	999.06	2000
<b>VI. Site Services</b>						
15.	PGP- coal handling system	4209	08.12.2023	09.12.2023	281.37	2000
16.	IF Slag Crusher	4231	09.12.2023	09.12.2023	986.73	2000
17.	Main Gate	4258	11.12.2023	12.12.2023	398.40	2000
18.	Fly ash Dump	4148	06.12.2023	07.12.2023	336.45	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  
Priyanka B M  
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/R018
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>DECEMBER-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>06.01.2024</b>
10	Report Number	: <b>GEMS/BMM/FM/2023-24/1687</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	4468	22.12.2023	23.12.2023	<b>1013.07</b>	<b>2000</b>
2.	Main Crusher	4466	22.12.2023	23.12.2023	<b>476.71</b>	<b>2000</b>
3.	Iron Ore Screen	4467	22.12.2023	23.12.2023	<b>569.43</b>	<b>2000</b>
<b>II. Pellet Plant-I</b>						
4.	Near Pellet Plant	4469	22.12.2023	23.12.2023	<b>609.76</b>	<b>2000</b>
5.	Annual Cooler Pellet Discharge bin	4470	22.12.2023	23.12.2023	<b>1010.16</b>	<b>2000</b>
6.	Pellet Stock Yard	4491	23.12.2023	23.12.2023	<b>1973.18</b>	<b>2000</b>
<b>III. Sponge Iron Division-1( kiln 1 &amp; 2)</b>						
7.	Control Room SID-I	4521	25.12.2023	26.12.2023	<b>1816.74</b>	<b>2000</b>
8.	Near Product bin	4522	25.12.2023	26.12.2023	<b>1062.99</b>	<b>2000</b>
9.	Coal Feeding Area	4523	25.12.2023	26.12.2023	<b>1768.87</b>	<b>2000</b>
<b>IV. Induction Furnace &amp; Rolling Mill</b>						
10.	IF Office	4492	23.12.2023	23.12.2023	<b>1175.89</b>	<b>2000</b>
11.	TMT Stock Yard	4493	23.12.2023	23.12.2023	<b>1097.59</b>	<b>2000</b>
12.	RML Gasifier	4494	23.12.2023	23.12.2023	<b>1153.33</b>	<b>2000</b>
<b>V. Power Plant 25 MW-1</b>						
13.	25 MW ESP	4524	25.12.2023	26.12.2023	<b>384.43</b>	<b>2000</b>
14.	25 MW ACC	4543	26.12.2023	27.12.2023	<b>496.29</b>	<b>2000</b>
<b>VI. Site Services</b>						
15.	PGP- Coal handling system	4495	23.12.2023	23.12.2023	<b>536.30</b>	<b>2000</b>
16.	IF Slag Crusher	4525	25.12.2023	26.12.2023	<b>1118.57</b>	<b>2000</b>
17.	Main Gate	4544	26.12.2023	27.12.2023	<b>818.87</b>	<b>2000</b>
18.	Fly ash Dump	4440	21.12.2023	22.12.2023	<b>662.75</b>	<b>2000</b>

**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**  
 Priyanka B M  
 Chemist

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

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- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey





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ANNEXURE-09  
GEMS-LD/TF/11/01

### FORTNIGHTLY FUGITIVE AIR QUALITY DATA MONITORING

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	: RDS Sampler (GEMS-01, GEMS-02, GEMS-03, GEMS-04, GEMS-05)
5	Month	: <b>DECEMBER-2023 (1<sup>st</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>06.01.2024</b>
10	Report Number	: <b>GEMS/BMM/FM/2023-24/1480</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-II</b>						
1.	Ball Mill Area (Zero Meter)	4072	01.12.2023	02.12.2023	183.14	2000
2.	Iron Ore Hopper (Near Monsoon Shed)	4074	01.12.2023	02.12.2023	512.95	2000
3.	Concentrate Thickner	4073	01.12.2023	02.12.2023	308.76	2000
<b>II. Pellet Plant-I</b>						
4.	PR-6	4075	01.12.2023	02.12.2023	311.94	2000
5.	Annual Cooler Pellet Discharge bin	4076	01.12.2023	02.12.2023	276.32	2000
6.	Additive Grinding Building	4089	02.12.2023	02.12.2023	198.11	2000
<b>III. Sponge Iron Division -2 (Kiln 1 &amp; 2)</b>						
7.	Control room	4090	02.12.2023	02.12.2023	1844.27	2000
8.	Near Weigh bridge (dispatch)	4091	02.12.2023	02.12.2023	1768.14	2000
9.	Pellet Storage bin	4113	04.12.2023	05.12.2023	414.02	2000
10.	Transfer House area	4092	02.12.2023	02.12.2023	1767.86	2000
11.	Production Separation Bin-PSB	4093	02.12.2023	02.12.2023	1687.05	2000
<b>IV. Sponge Iron Division -2 (Kiln 3 &amp; 4)</b>						
12.	Near Control room	4114	04.12.2023	05.12.2023	1911.11	2000
13.	Near Coal Crusher	4116	04.12.2023	05.12.2023	1540.13	2000
14.	Near Product bin	4115	04.12.2023	05.12.2023	1725.14	2000
15.	Coal Drier	4117	04.12.2023	05.12.2023	1097.79	2000
<b>V. Wagon Tipper/RMHS</b>						
16.	Near Tipping point	4130	05.12.2023	06.12.2023	336.04	2000
17.	Monsoon Shed (CPU)	4131	05.12.2023	06.12.2023	742.64	2000
18.	MCC Room (2 <sup>nd</sup> Gate)	4132	05.12.2023	06.12.2023	528.35	2000
<b>VI. Power Plant-70 MW</b>						
19.	70MW-DM Plant (Near R.O. Plant)	4129	05.12.2023	06.12.2023	612.67	2000
20.	2 <sup>nd</sup> gate weigh bridge Near Coal Screen	4144	06.12.2023	07.12.2023	413.79	2000
21.	CFBC boiler	4134	05.12.2023	06.12.2023	988.28	2000
<b>VII. 2X70MW Power Plant</b>						
22.	Near Boiler	4145	06.12.2023	07.12.2023	307.09	2000
23.	Near Coal storage Shed	4146	06.12.2023	07.12.2023	240.37	2000
24.	CPP Dolochar Process Area	4147	06.12.2023	07.12.2023	331.71	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  
Priyanka B M  
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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)

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

#### FORTNIGHTLY FUGITIVE AIR QUALITY DATA MONITORING

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	:	RDS Sampler (GEMS-01, GEMS-02, GEMS-03, GEMS-04, GEMS-05)
5	Month	:	DECEMBER-2023 (2 <sup>nd</sup> Fort Night)
6	Discipline	:	Chemical
7	Group	:	Atmospheric Pollution
8	Method adopted	:	IS 5182 (Part 4): 1999 RA 2014
9	Report Issued Date	:	06.01.2024
10	Report Number	:	GEMS/BMM/FM/2023-24/1655

#### 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-II</b>						
1.	Ball Mill Area (Zero Meter)	4348	16.12.2023	16.12.2023	424.86	2000
2.	Iron Ore Hopper (Near Monsoon Shed)	4350	16.12.2023	16.12.2023	654.18	2000
3.	Concentrate Thickner	4349	16.12.2023	16.12.2023	396.68	2000
<b>II. Pellet Plant</b>						
4.	PR-6	4351	16.12.2023	16.12.2023	330.60	2000
5.	Annual Cooler Pellet Discharge bin	4352	16.12.2023	16.12.2023	519.98	2000
6.	Additive Grinding Building	4359	18.12.2023	19.12.2023	791.84	2000
<b>III. Sponge Iron Division -2 (Kiln 1 &amp; 2)</b>						
7.	Control room	4360	18.12.2023	19.12.2023	1820.42	2000
8.	Near Weigh bridge (dispatch)	4361	18.12.2023	19.12.2023	1483.36	2000
9.	Pellet Storage bin	4362	18.12.2023	19.12.2023	1845.79	2000
10.	Transfer House area	4363	18.12.2023	19.12.2023	1696.71	2000
11.	Production Separation Bin-PSB	4396	19.12.2023	20.12.2023	1522.21	2000
<b>IV. Sponge Iron Division -2 (Kiln 3 &amp; 4)</b>						
12.	Near Control room	4397	19.12.2023	20.12.2023	1286.91	2000
13.	Near Coal Crusher	4399	19.12.2023	20.12.2023	1832.31	2000
14.	Near Product bin	4398	19.12.2023	20.12.2023	1062.59	2000
15.	Coal Dryer	4400	19.12.2023	20.12.2023	827.42	2000
<b>V. Wagon Tipper/RMHS</b>						
16.	Near Tipping point	4413	20.12.2023	21.12.2023	772.93	2000
17.	Monsoon Shed (CPU)	4414	20.12.2023	21.12.2023	457.07	2000
18.	MCC Room (2 <sup>nd</sup> Gate)	4415	20.12.2023	21.12.2023	976.55	2000
<b>VI. Power Plant-70 MW</b>						
19.	70MW-DM Plant (Near R.O. Plant)	4416	20.12.2023	21.12.2023	650.11	2000
20.	2 <sup>nd</sup> gate weigh bridge Near Coal Screen	4436	21.12.2023	22.12.2023	761.40	2000
21.	CFBC boiler	4417	20.12.2023	21.12.2023	425.88	2000
<b>VII. 2X70MW Power Plant</b>						
22.	Near Boiler	4437	21.12.2023	22.12.2023	465.89	2000
23.	Near Coal storage Shed	4438	21.12.2023	22.12.2023	318.72	2000
24.	Dolochar Processing Area	4439	21.12.2023	22.12.2023	1148.29	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  
Priyanka B M  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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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/ <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>DECEMBER - 2023</b>
11	Date of Sample Received	: 01.12.2023 & 16.12.2023
12	Date of Sample Analysis	: 01.12.2023 & 16.12.2023
13	Date of Sample Analysis completion	: 02.12.2023 & 18.12.2023
14	Report Issued Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001481F</b>

### 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	
				01.12.2023	16.12.2023	
	Date of Monitoring					
	Sample Code			4077	4353	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	29	28	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	76	74	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.18	5.33	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	283585	291907	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	242081	250456	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	33.99	35.42	50
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	162.0	187.0	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	68.0	72.0	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.013	0.016	NS

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

**Analysed By**  
Priyanka B M  
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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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/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>DECEMBER - 2023</b>
11	Date of Sample Received	: 07.12.2023 & 22.12.2023
12	Date of Sample Analysis	: 08.12.2023 & 23.12.2023
13	Date of Sample Analysis completion	: 09.12.2023 & 25.12.2023
14	Report Issued Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001552F</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	
				07.12.2023	22.12.2023	
	Date of Monitoring					
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	28	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	172	175	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	6.56	6.50	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	74201	73523	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	49651	48899	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	20.10	24.54	50
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	92.0	104.0	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	27.0	32.0	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.317	0.296	1

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

**Analysed By**  
Priyanka B M  
Chemist

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

#### **Note:**

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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/ **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 : **DECEMBER - 2023 (1st Fort Night)**
- 10 Date of Sample Received : 12.12.2023
- 11 Date of Sample Analysis : 13.12.2023
- 12 Date of Sample Analysis completion : 14.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001606F**

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	12.12.2023	4276	Electric Power	28	41	5.11	30	1.0	5.91	150
2	Induction Furnance 2	12.12.2023	4277		29	44	5.20	30	1.0	9.52	150

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	24851	23346	-
2	Induction Furnance 2	14026	6439.4	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

**Analysed By**  
Priyanka B M  
Chemist  
**Authorised Signatory**  
K. Ramakrishna Reddy  
Technical Manager**Note:**

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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/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>Rolling mill reheating furnace</b>
10	Month of Sampling	: <b>DECEMBER - 2023</b>
11	Date of Sample Received	: 06.12.2023 & 21.12.2023
12	Date of Sample Analysis	: 07.12.2023 & 22.12.2023
13	Date of Sample Analysis completion	: 08.12.2023 & 23.12.2023
14	Report Issued Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001528F</b>

### 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	
				06.12.2023	21.12.2023	
	Date of Monitoring			4151	4468	
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	29	28	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	376	378	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	7.76	7.60	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m <sup>3</sup> /hr	14026	13754	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm <sup>3</sup> /hr	6439.4	6293.7	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	12.79	11.96	50
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm <sup>3</sup>	23.0	18.0	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	308.0	293.0	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.037	0.046	NS

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

**Analysed By**  
Priyanka B M  
Chemist

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

#### Note:

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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/R018   |
| 3  | Sample collected by                | : | GLOBAL Environment & Mining Services, Hosapete   |
| 4  | Particulars of sample collected    | : | Vayubodhak Stack sampler/ <b>VBSS-2</b><br>Sl. No: Stack Monitoring Kit/ <b>032308</b> |
| 5  | Instrument Details                 | : | Calibration Date: 28.03.2023<br>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>DECEMBER - 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 |
| 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>			NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			NS
9	Carbon Monoxide	GEMS/SOP/69	%			NS

**Note:** NS- Not Specified. RA: Reaffirmed,

*(Signature)*  
**Authorised Signatory**  
**K. Ramakrishna Reddy**  
 Technical Manager

#### **Note:**

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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/ 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 : DECEMBER- 2023(1st Fort Night)
- 10 Date of Sample Received : 11.12.2023
- 11 Date of Sample Analysis : 12.12.2023
- 12 Date of Sample Analysis completion : 13.12.2023
- 13 Report Issued Date : 06.01.2024
- 14 Report Number : ULR-TC532323000001596F

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height t (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	11.12.2023	4259	-	29	37	4.69	25	0.40	18.68	50
2	Iron Ore Screen bin	11.12.2023	4260	-	30	35	4.82	30	0.40	17.46	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	2122	2047	-
2	Iron Ore Screen bin	2181	2096	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By  
Priyanka B M  
Chemist



Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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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 : **DECEMBER - 2023 (1st Fort Night)**
- 10 Date of Sample Received : 11.12.2023 & 12.12.2023
- 11 Date of Sample Analysis : 12.12.2023 & 13.12.2023
- 12 Date of Sample Analysis completion : 13.12.2023 & 14.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001598F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Use d	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)	11.12.2023	4261	-	29	37	5.19	3.0	0.30	34.90	50
4	Main Crusher	12.12.2023	4278	-	30	35	4.70	35	0.50	12.43	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)	31304	30076	-
4	Main Crusher	3627	3505	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

  
**Analysed By**  
 Priyanka B M  
 Chemist

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

**Note:**

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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/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	Month of Sampling	: <b>DECEMBER- 2023(1st Fort Night)</b>
10	Date of Sample Received	: 01.12.2023 & 02.12.2023
11	Date of Sample Analysis	: 01.12.2023 & 02.12.2023
12	Date of Sample Analysis completion	: 04.12.2023 & 04.12.2023
13	Report Issued Date	: <b>06.01.2024</b>
14	Report Number	: <b>ULR-TC532323000001482F</b>

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	01.12.2023	4078	-	30	38	4.66	6.5	0.60	22.30	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	01.12.2023	4079	-	31	36	4.75	3.0	0.30	20.54	50
7	Bentonite Powder bin top bag filter	02.12.2023	4095	-	30	36	4.61	3.0	0.30	26.25	50
8	H-4 Conveyor discharge bag filter	-	-	-	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	02.12.2023	4096	-	31	38	4.92	7.0	0.50	31.31	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	4744	4534	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1209	1162	-
7	Bentonite Powder bin top bag filter	1173	1128	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3485	3328	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

Analysed By  
Priyanka B M  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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TC-5323

**ANNEXURE-19**  
**GEMS-LD/TF/10/01****Analysis Report of Stack Emission**

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/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 : **DECEMBER- 2023(1st Fort Night)**
- 10 Date of Sample Received : 09.12.2023
- 11 Date of Sample Analysis : 11.12.2023
- 12 Date of Sample Analysis completion : 13.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001579F**

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	09.12.2023	4232	---	31	35	4.54	30	1.20	24.40	50
11	Cooler-2 Discharge	-	-	---	-	-	-	30	1.20	-	50
12	Intermediate Bin & Blending	09.12.2023	4234	---	30	36	4.53	30	1.20	28.91	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	18324	17713	-
11	Cooler-2 Discharge	-	-	-
12	Intermediate Bin & Blending	19668	18913	-
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)

Analysed By  
Priyanka B M  
Chemist

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 : **DECEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 28.12.2023
- 11 Date of Sample Analysis : 29.12.2023
- 12 Date of Sample Analysis completion : 30.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001741F**

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	28.12.2023	4587	Electric	28	40	5.07	30	1.0	4.28	50
2	Induction Furnance 2	28.12.2023	4588	Power	29	43	5.13	30	1.0	8.60	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	20666	19673	-
2	Induction Furnance 2	24550	23133	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

**Analysed By**  
Priyanka B M  
Chemist

**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/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>DECEMBER- 2023(2nd Fort Night)</b>
10	Date of Sample Received	:	27.12.2023
11	Date of Sample Analysis	:	28.12.2023
12	Date of Sample Analysis completion	:	29.12.2023
13	Report Issued Date	:	<b>06.01.2024</b>
14	Report Number	:	<b>ULR-TC532323000001724F</b>

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Beneficiation Plant</b>											
1	Iron Ore dump hopper	27.12.2023	4554	---	30	35	4.78	25	0.40	17.85	50
2	Iron Ore Screen bin	27.12.2023	4555	---	31	36	4.90	30	0.40	15.24	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	2167	2090	-
2	Iron Ore Screen bin	2217	2131	-

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)

*Priyanka B M*  
**Analysed By**  
Priyanka B M  
Chemist

*K. Ramakrishna Reddy*  
**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/R018   |
| 3  | Sample collected by                | : | GLOBAL Environment & Mining Services, Hosapete   |
| 4  | Particulars of sample collected    | : | Vayubodhak Stack sampler/ <b>VBSS-2</b><br>Sl. No: Stack Monitoring Kit/ <b>032308</b> |
| 5  | Instrument Details                 | : | Calibration Date: 28.03.2023<br>Calibration Due Date: 27.03.2024                       |
| 6  | Discipline                         | : | Chemical   |
| 7  | Group                              | : | Atmospheric Pollution  |
| 8  | Sample Type                        | : | Stack Monitoring   |
| 9  | Month of Sampling                  | : | <b>DECEMBER- 2023(2nd Fort Night)</b>  |
| 10 | Date of Sample Received            | : | 29.12.2023   |
| 11 | Date of Sample Analysis            | : | 30.12.2023   |
| 12 | Date of Sample Analysis completion | : | 30.12.2023   |
| 13 | Report Issued Date                 | : | <b>06.01.2024</b>  |
| 14 | Report Number                      | : | <b>ULR-TC532323000001742F</b>  |

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)	29.12.2023	4602	-	30	38	5.25	3.0	0.30	35.24	50
4	Main Crusher	-	-	-	-	-	-	35	0.50	-	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
3	Screen, Coal Crusher (CPU)	33429	31994	-
4	Main Crusher	-	-	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

**Analysed By**  
Priyanka B M  
Chemist

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

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TC-5323

**ANNEXURE-23**  
**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 : **DECEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 16.12.2023 & 18.12.2023
- 11 Date of Sample Analysis : 18.12.2023 & 18.12.2023
- 12 Date of Sample Analysis completion : 19.12.2023 & 19.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001663F**

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	16.12.2023	4354	---	33	35	4.52	6.5	0.60	21.36	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	16.12.2023	4356	---	29	36	4.70	3.0	0.30	25.62	50
7	Bentonite Powder bin top bag filter	18.12.2023	4373	---	30	36	4.44	3.0	0.30	21.80	50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	18.12.2023	4374	---	30	38	4.88	7.0	0.50	32.31	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	4626	4463	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1198	1151	-
7	Bentonite Powder bin top bag filter	1132	1089	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3456	3302	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

**Analysed By**  
Priyanka B M  
Chemist

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

**Note:**

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## GLOBAL ENVIRONMENT & MINING SERVICES

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TC-5323

ANNEXURE-24  
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 : DECEMBER - 2023 (2nd Fort Night)
- 10 Date of Sample Received : 26.12.2023 & 27.12.2023
- 11 Date of Sample Analysis : 27.12.2023 & 28.12.2023
- 12 Date of Sample Analysis completion : 28.12.2023 & 29.12.2023
- 13 Report Issued Date : 06.01.2024
- 14 Report Number : ULR-TC532323000001724F

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	26.12.2023	4546	---	30	35	4.68	30	1.20	22.30	50
11	Cooler-2 Discharge	-	-	---	-	-	-	30	1.20	-	50
12	Intermediate Bin & Blending	27.12.2023	4552	---	28	35	4.49	30	1.20	25.33	50
13	Product House	27.12.2023	4553	---	30	38	5.25	30	1.20	35.35	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	19077	18405	-
11	Cooler-2 Discharge	-	-	-
12	Intermediate Bin & Blending	18283	17680	-
13	Product House	20425	19548	-

Parameter	Protocol
Particulate Matter (mg/Nm <sup>3</sup> )	IS: 11255 (Part 1) - 1985 (reaffirmed 2014)
Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)
Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)

  
**Analysed By**  
 Priyanka B M  
 Chemist

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

#### Note:

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TC-5323

ANNEXURE-25  
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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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-2 ESP</b>
10	Month of Sampling	: <b>DECEMBER-2023</b>
11	Date of Sample Received	: -
12	Date of Sample Analysis	: -
13	Date Sample Analysis Completion	: -
14	Report Issued Date	: <b>06.01.2024</b>
15	Report Number	: -

#### Stack Details

1	Fuel Used	Coal
2	Stack Height (mtr)	100
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)1985(RA 2014)	m <sup>3</sup> /hr			-
5	Gas flow rate at NTP	IS-11255(Part 03)1985(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): 1985 (RA 2014)	mg/Nm <sup>3</sup>			NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005(RA 2017)	mg/Nm <sup>3</sup>			NS
9	Carbon Monoxide	GEMS/SOP/69	%			NS

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.
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TC-5323

ANNEXURE-26  
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
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ **VBSS2**  
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 : **SID Axis 1 & 2**
- 10 Month of Sampling : **DECEMBER-2023**
- 11 Date of Sample Received : 02.12.2023 & 18.12.2023
- 12 Date of Sample Analysis : 04.12.2023 & 19.12.2023
- 13 Date Sample Analysis Completion : 04.12.2023 & 20.12.2023
- 14 Report Issued Date : **06.01.2024**
- 15 Report Number : **ULR-TC532323000001494F**

#### Stack Details

- 1 Fuel Used : Coal
- 2 Stack Height (mtr) : 70.0
- 3 Stack Diameter (mtr) : 3.00

#### Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
				02.12.2023	18.12.2023	
	Date of Monitoring			4094	4364	
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	30	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	129	127	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	6.03	5.83	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03)1985(RA 2014)	m <sup>3</sup> /hr	147967	147967	-
5	Gas flow rate at NTP	IS-11255(Part 03)1985(RA 2014)	Nm <sup>3</sup> /hr	109428	110221	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	32.77	38.47	50
7	Sulphur Dioxide	IS: 11255 (Part 2): 1985 (RA 2014)	mg/Nm <sup>3</sup>	682.0	739.0	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005(RA 2017)	mg/Nm <sup>3</sup>	40.0	65.0	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.097	0.082	1%

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

Analysed By  
Priyanka B M  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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

ANNEXURE-27  
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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ VBSS2 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	: SID Axis 3&4
10	Month of Sampling	: DECEMBER-2023
11	Date of Sample Received	: 04.12.2023 & 19.12.2023
12	Date of Sample Analysis	: 05.12.2023 & 20.12.2023
13	Date Sample Analysis Completion	: 05.12.2023 & 20.12.2023
14	Report Issued Date	: 06.01.2024
15	Report Number	: ULR-TC532323000001527F

### Stack Details

1	Fuel Used	Coal
2	Stack Height (mtr)	70.0
3	Stack Diameter (mtr)	3.00

### Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
				04.12.2023	19.12.2023	
				4152	4401	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	29	28	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	132	131	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.84	5.94	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03)1985(RA 2014)	m <sup>3</sup> /hr	155857	155857	-
5	Gas flow rate at NTP	IS-11255(Part 03)1985(RA 2014)	Nm <sup>3</sup> /hr	116068	114903	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	35.53	42.62	50
7	Sulphur Dioxide	IS: 11255 (Part 2): 1985 (RA 2014)	mg/Nm <sup>3</sup>	866.0	318	NS
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	32.0	118	NS
9	Carbon Monoxide	GEMS/SOP/69	%	0.021	0.028	1%

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

Analysed By  
Priyanka B M  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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TC-5323

**ANNEXURE-28**  
**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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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>1X70 MW-CFBC Boiler ESP</b>
10	Month of Sampling	: <b>DECEMBER-2023</b>
11	Date of Sample Received	: 05.12.2023 & 20.12.2023
12	Date of Sample Analysis	: 06.12.2023 & 21.12.2023
13	Date Sample Analysis Completion	: 06.12.2023 & 21.12.2023
14	Report Issued Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001520F</b>

#### Stack Details

1	Fuel Used	Coal
2	Stack Height (mtr)	70.0
3	Stack Diameter (mtr)	3.00

#### Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 <sup>st</sup> Fort Night	2 <sup>nd</sup> Fort Night	
				05.12.2023	20.12.2023	
	Date of Monitoring					
	Sample Code			4135	4418	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	29	28	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	132	128	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.99	6.03	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03)1985(RA 2014)	m <sup>3</sup> /hr	152625	152625	-
5	Gas flow rate at NTP	IS-11255(Part 03)1985(RA 2014)	Nm <sup>3</sup> /hr	112213	113392	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm <sup>3</sup>	35.65	38.07	50
7	Sulphur Dioxide	IS: 11255 (Part 2): 1985 (RA 2014)	mg/Nm <sup>3</sup>	514.0	495.0	600
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>	68.0	39.0	300
9	Carbon Monoxide	GEMS/SOP/69	%	0.054	0.074	NS

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

**Analysed By**  
Priyanka B M  
Chemist



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

#### **Note:**

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TC-5323

**ANNEXURE-29**  
**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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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>2X70 MW CFBC Boiler ESP</b>
10	Month of Sampling	: <b>DECEMBER-2023</b>
11	Date of Sample Received	: -
12	Date of Sample Analysis	: -
13	Date Sample Analysis Completion	: -
14	Report Issued Date	: -
15	Report Number	: -

### Stack Details

1	Fuel Used	Coal
2	Stack Height (mtr)	110.0
3	Stack Diameter (mtr)	8.00

### 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)1985(RA 2014)	m <sup>3</sup> /hr			-
5	Gas flow rate at NTP	IS-11255(Part 03)1985(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): 1985 (RA 2014)	mg/Nm <sup>3</sup>			600
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm <sup>3</sup>			300
9	Carbon Monoxide	GEMS/SOP/69	%			NS

**Note:** NS- Not Specified. RA: Reaffirmed

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

#### **Note:**

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TC-5323

**ANNEXURE-30**  
**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  |
| 4  | Particulars of sample collected | : Vayubodhan Stack sampler/ <b>VBSS2</b><br>Sl.No:Stack Monitoring Kit/ <b>032308</b> |
| 5  | Instrument Details              | : Calibration Date: 28.03.2023<br>Calibration Due Date: 27.03.2024                    |
| 6  | Discipline                      | : Chemical  |
| 7  | Group                           | : Atmospheric Pollution   |
| 8  | Sample Type                     | : Stack Monitoring  |
| 9  | Month of Sampling               | : <b>DECEMBER-2023 (1<sup>st</sup> Fort Night)</b>                                    |
| 10 | Date of Sample Received         | : 12.12.2023  |
| 11 | Date of Sample Analysis         | : 13.12.2023  |
| 12 | Date Sample Analysis Completion | : 13.12.2023  |
| 13 | Report Issued Date              | : <b>06.01.2024</b>   |
| 14 | Report Number                   | : <b>ULR-TC532323000001607F</b>   |

### RESULTS

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Beneficiation Plant-2</b>											
1	Iron Ore Cone Crusher	-	-	---	-	-	-	30	1.20	-	50
2	Iron Ore Screening	12.12.2023	4277	---	31	36	5.02	30	0.90	15.90	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 Cone Crusher	-	-	-
2	Iron Ore Screening	11178	10749	-

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)

**INFERENCE:** The Measured Values are within the limits.

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

**Note:**

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## GLOBAL ENVIRONMENT & MINING SERVICES

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TC-5323

ANNEXURE-31  
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
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VBSS2  
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 : DECEMBER-2023 (1<sup>st</sup> Fort Night)
- 10 Date of Sample Received : -
- 11 Date of Sample Analysis : -
- 12 Date Sample Analysis Completion : -
- 13 Report Issued Date : 06.01.2024
- 14 Report Number : -

### RESULTS

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)											
Pellet Plant-II											
3	AGB main bag Filter	-	-	---	-	-	-	6.5	0.5	-	50
4	Lime & Bentonite Powder bin top bag filter	-	-	---	-	-	-	3	0.35	-	50
5	AGB De dusting Bag Filter	-	-	---	-	-	-	6	0.6	-	50
6	Powder Coal main bag filter	-	-	---	-	-	-	6	0.6	-	50
7	RP-6 Conveyor bag Filter	-	-	---	-	-	-	6	0.3	-	50
8	Pellet discharge bin bag filter	-	-	---	-	-	-	20	0.5	-	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
3	AGB main bag Filter	-	-	-
4	Lime & Bentonite Powder bin top bag filter	-	-	-
5	AGB De dusting Bag Filter	-	-	-
6	Powder Coal main bag filter	-	-	-
7	RP-6 Conveyor bag Filter	-	-	-
8	Pellet discharge bin 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)

INFERENCE:

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
2. Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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TC-5323

**ANNEXURE-32**  
**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                                  |
| 4  | Particulars of sample collected | : Vayubodhan Stack sampler/ VBSS2<br>Sl.No:Stack Monitoring Kit/ 032308 |
| 5  | Instrument Details              | : Calibration Date: 28.03.2023<br>Calibration Due Date: 27.03.2024      |
| 6  | Discipline                      | : Chemical  |
| 7  | Group                           | : Atmospheric Pollution   |
| 8  | Sample Type                     | : Stack Monitoring  |
| 9  | Month of Sampling               | : <b>DECEMBER-2023 (1<sup>st</sup> Fort Night)</b>                      |
| 10 | Date of Sample Received         | : 04.12.2023, 05.12.2023, 06.12.2023, 07.12.2023 & 08.12.2023           |
| 11 | Date of Sample Analysis         | : 05.12.2023, 06.12.2023, 07.12.2023, 08.12.2023 & 09.12.2023           |
| 12 | Date Sample Analysis Completion | : 05.12.2023, 06.12.2023, 07.12.2023, 08.12.2023 & 09.12.2023           |
| 13 | Report Issued Date              | : <b>06.01.2024</b>   |
| 14 | Report Number                   | : <b>ULR-TC5323230000001511F</b>  |

### RESULTS

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 500 TPD Sponge Iron Kiln 1 &amp; 2</b>											
9	Cooler Discharge -1	04.12.2023	4119	---	30	37	4.52	30	1.2	30.55	50
10	Cooler Discharge -2	04.12.2023	4120	---	30	36	4.84	30	1.2	29.45	50
11	Coal stock house	05.12.2023	4137	---	30	36	4.45	30	1.2	9.46	50
12	PSB 1 System-1	05.12.2023	4136	---	31	38	4.50	30	1.2	33.43	50
13	PSB 1 System-2	06.12.2023	4149	---	31	36	4.83	30	1.2	32.51	50
14	PSB 2 System-1 MCC	06.12.2023	4150	---	31	38	4.93	30	1.2	34.57	50
15	PSB 1 System-2 Road	07.12.2023	4185	---	30	38	5.14	30	1.2	35.08	50
16	Junction House Old & New	07.12.2023	4186	---	30	39	5.23	30	1.2	33.77	50
17	Storage Bunker	08.12.2023	4210	---	28	36	4.92	30	1.2	33.75	50
18	Dispatch	-	-	---	-	-	-	30	1.2	-	50

Sl. No	2 X 500 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
9	Cooler Discharge -1	17945	17203	-
10	Cooler Discharge -2	18597	17876	-
11	Coal stock house	19338	18603	-
12	PSB 1 System-1	18670	17836	-
13	PSB 1 System-2	19623	18875	-
14	PSB 2 System-1 MCC	20115	19353	-
15	PSB 1 System-2 Road	20115	19353	-
16	Junction House Old & New	18772	17971	-
17	Storage Bunker	18161	17490	-
18	Dispatch	-	-	-

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)

**INFERENCE:** The Measured Values are within the limits.

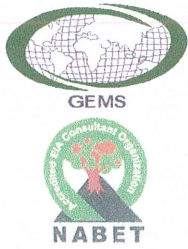
**Analysed By**  
Priyanka B M  
Chemist

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

#### Note:

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TC-5323

### ANNEXURE-33 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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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>DECEMBER-2023 (1<sup>st</sup> Fort Night)</b>
10	Date of Sample Received	: 08.12.2023 & 09.12.2023
11	Date of Sample Analysis	: 09.12.2023 & 11.12.2023
12	Date Sample Analysis Completion	: 09.12.2023 & 11.12.2023
13	Report Issued Date	: <b>06.01.2024</b>
14	Report Number	: <b>ULR-TC532323000001568F</b>

#### RESULTS

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/s	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>2X500 TPD Sponge Iron Kiln 3&amp;4</b>											
19	DE 3, Axis 3 CD	-	-	---	-	-	-	30	1.2	-	50
20	DE 4, DE 7, DE 7A Axis 4 CD Junction House (Stand By)	08.12.2023	4212	---	29	37	5.15	30	1.2	35.33	50
21	DE 8 & 12 I-Bin, (Stand By)	08.12.2023	4213	---	30	37	4.96	30	1.9	33.13	50
22	DE 9 & 10 PSB 1 & 2 Product Separation bin	08.12.2023	4214	---	29	38	5.37	30	1.9	36.23	50
23	Coal Dryer	09.12.2023	4233	---	29	40	5.27	27	1.2	37.97	50

Sl. No	2X500 TPD Sponge Iron Kiln 3&4	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
19	DE 3, Axis 3 CD	-	-	-
20	DE 4, DE 7, DE 7A Axis 4 CD Junction House (Stand By)	19586	18771	-
21	DE 8 & 12 I-Bin, (Stand By)	51041	49267	-
22	DE 9 & 10 PSB 1 & 2 Product Separation bin	50225	48290	-
23	Coal Dryer	20808	19856	-

**INFERENCE:** The Measured Values are within the limits.

  
Analysed By  
Priyanka B M  
Chemist

  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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Website : www.globalmining.in



TC-5323

ANNEXURE-34  
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
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ VBSS2  
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 : DECEMBER-2023 (2<sup>nd</sup> Fort Night)
- 10 Date of Sample Received : 28.12.2023
- 11 Date of Sample Analysis : 29.12.2023
- 12 Date Sample Analysis Completion : 29.12.2023
- 13 Report Issued Date : 06.01.2024
- 14 Report Number : ULR-TC532323000001747F

### RESULTS

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-2											
1	Iron Ore Cone Crusher	-	-	---	-	-	-	30	1.20	-	50
2	Iron Ore Screening	28.12.2023	4597	---	31	36	4.91	30	0.90	12.91	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 Cone Crusher	-	-	-
2	Iron Ore Screening	11178	10749	-

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)

INFERENCE: The Measured Values are within the limits.

Analysed By  
Priyanka B M  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### Note:

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TC-5323

**ANNEXURE-35**  
**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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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>DECEMBER-2023 (2<sup>nd</sup> Fort Night)</b>
10	Date of Sample Received	: -
11	Date of Sample Analysis	: -
12	Date Sample Analysis Completion	: -
13	Report Issued Date	: <b>06.01.2024</b>
14	Report Number	: -

### RESULTS

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm <sup>3</sup>	KSPCB Std mg/Nm <sup>3</sup>
<b>Chimneys attached to Bag Filter (De dusting Units)</b>											
<b>Pellet Plant</b>											
3	AGB main bag Filter	-	-	---	-	-	-	6.5	0.5	-	50
4	Lime & Bentonite Powder bin top bag filter	-	-	---	-	-	-	3	0.35	-	50
5	AGB De dusting Bag Filter	-	-	---	-	-	-	6	0.6	-	50
6	Powder Coal main bagfilter	-	-	---	-	-	-	6	0.6	-	50
7	RP-6 Conveyor bag Filter	-	-	---	-	-	-	6	0.3	-	50
8	Pellet discharge bin bagfilter	-	-	---	-	-	-	20	0.5	-	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
3	AGB main bag Filter	-	-	-
4	Lime & Bentonite Powder bin top bag filter	-	-	-
5	AGB De dusting Bag Filter	-	-	-
6	Powder Coal main bagfilter	-	-	-
7	RP-6 Conveyor bag Filter	-	-	-
8	Pellet discharge bin bagfilter	-	-	-

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)

**INFERENCE: -**

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

**Note:**

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ANNEXURE-36  
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
4	Particulars of sample collected	: Vayubodhan Stack sampler/ <b>VBSS2</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>DECEMBER-2023 (2<sup>nd</sup> Fort Night)</b>
10	Date of Sample Received	: 19.12.2023, 20.12.2023, 21.12.2023, 22.12.2023 & 26.12.2023
11	Date of Sample Analysis	: 20.12.2023, 21.12.2023, 22.12.2023, 23.11.2023 & 27.12.2023
12	Date Sample Analysis Completion	: 20.12.2023, 21.12.2023, 22.12.2023, 23.11.2023 & 27.12.2023
13	Report Issued Date	: <b>06.01.2024</b>
14	Report Number	: <b>ULR-TC532323000001675F</b>

### RESULTS

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 500 TPD Sponge Iron Kiln 1 &amp; 2</b>											
9	Cooler Discharge -1	26.12.2023	4546	---	29	36	4.63	30	1.2	30.18	50
10	Cooler Discharge -2	19.12.2023	4402	---	31	36	4.90	30	1.2	30.25	50
11	Coal stock house	19.12.2023	44.03	---	30	35	4.28	30	1.2	10.49	50
12	PSB 1 System-1	20.12.2023	4419	---	30	36	4.69	30	1.2	34.14	50
13	PSB 1 System-2	20.12.2023	4420	---	30	37	4.92	30	1.2	35.63	50
14	PSB 2 System-1 MCC	21.12.2023	4442	---	30	37	4.75	30	1.2	37.26	50
15	PSB 1 System-2 Road	21.12.2023	4443	---	31	38	5.19	30	1.2	36.76	50
16	Junction House Old & New	22.12.2023	4471	---	30	38	5.26	30	1.2	40.54	50
17	Storage Bunker	22.12.2023	4472	---	28	36	4.85	30	1.2	38.82	50
18	Dispatch	-	-	---	-	-	-	30	1.2	-	50

Sl. No	2 X 500 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
9	Cooler Discharge -1	17945	17298	-
10	Cooler Discharge -2	18597	17885	-
11	Coal stock house	19338	18649	-
12	PSB 1 System-1	18670	17956	-
13	PSB 1 System-2	19623	18799	-
14	PSB 2 System-1 MCC	20400	19702	-
15	PSB 1 System-2 Road	20115	19353	-
16	Junction House Old & New	18772	17971	-
17	Storage Bunker	18161	17490	-
18	Dispatch	-	-	-

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)

**INFERENCE:** The Measured Values are within the limits.

*Priyanka B M*  
Analysed By  
Priyanka B M  
Chemist

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

#### Note:

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TC-5323

**ANNEXURE-37**  
**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
- 4 Particulars of sample collected : Vayubodhan Stack sampler/ **VBSS2**  
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 : **DECEMBER-2023 (2<sup>nd</sup> Fort Night)**
- 10 Date of Sample Received : 25.12.2023, 26.12.2023 & 29.12.2023
- 11 Date of Sample Analysis : 26.12.2023, 27.12.2023 & 30.12.2023
- 12 Date Sample Analysis Completion : 26.12.2023, 27.12.2023 & 30.12.2023
- 13 Report Issued Date : **06.01.2024**
- 14 Report Number : **ULR-TC532323000001720F**

### RESULTS

Sl. NO	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/s	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>2X500 TPD Sponge Iron Kiln 3&amp;4</b>											
19	DE 3, Axis 3 CD	29.12.2023	4603	---	29	36	4.82	30	1.20	32.13	50
20	DE 4, DE 7, DE 7A Axis 4 CD Junction House(Stand By)	25.12.2023	4526	---	28	36	5.09	30	1.20	34.30	50
21	DE 8 & 12 I-Bin, (Stand By)	25.12.2023	4527	---	29	37	4.92	30	1.30	35.75	50
22	DE 9 & 10 PSB 1 & 2 Product Separation bin	25.12.2023	4528	---	30	37	5.39	30	1.4	37.30	50
23	Coal Dryer	26.12.2023	4545	---	29	39	5.23	35	1.90	36.17	50

Sl. No	2X500 TPD Sponge Iron Kiln 3&4	Gas flow rate at Stack Condition m <sup>3</sup> /hr	Gas flow rate at NTP Nm <sup>3</sup> /hr	KSPCB Std
19	DE 3, Axis 3 CD	18079	17390	-
20	DE 4, DE 7, DE 7A Axis 4 CD Junction House(Stand By)	19586	18771	-
21	DE 8 & 12 I-Bin, (Stand By)	51041	49267	-
22	DE 9 & 10 PSB 1 & 2 Product Separation bin	50225	48290	-
23	Coal Dryer	20808	19856	-

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)

**INFERENCE:** The Measured Values are within the limits.

*[Signature]*  
**Analysed By**  
Priyanka B M  
Chemist

*[Signature]*  
**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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Website : [www.globalmining.in](http://www.globalmining.in)



TC-5323

**ANNEXURE-38**  
**GEMS-LD/TF/08/01**

Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference	:	WO/ADMIN/FY24/RO18
Sample collected by	:	Global Environment & Mining Services
Discipline	:	Chemical
Group	:	Atmospheric Pollution
Sample Type	:	Noise Level Monitoring
Particulars of Sample Collected	:	Lutron: SL- 4023SD Sl. No: Q679952
Instrument Details	:	Calibration Date: 02.11.2023 Due Calibration: 01.11.2024
Month	:	<b>DECEMBER - 2023</b>
Report Issue Date	:	<b>06.01.2024</b>
Method Adopted	:	IS 9989-1981 Reaffirmed 2014
Report No	:	<b>ULR-TC532323000001485F</b>

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	01.12.2023	48.2	56.8	75	43.4	58.7	70
2	Near ATM	01.12.2023	49.0	54.9	75	45.1	60.4	70
3	Transit House	02.12.2023	53.4	61.2	75	41.6	58.4	70
4	CAAQMS Station	02.12.2023	46.8	55.6	75	40.2	50.2	70
5	Gunda Road	04.12.2023	48.2	56.8	75	41.7	52.4	70
6	Gunda Railway Station	04.12.2023	58.2	63.5	75	47.2	59.1	70
7	Bagging Shed	05.12.2023	51.8	56.8	75	51.3	60.2	70
8	Railway Siding	05.12.2023	58.0	68.2	75	57.5	63.0	70
9	4th Gate	06.12.2023	49.6	55.9	75	45.1	57.3	70
10	Bricks Plant	06.12.2023	57.4	68.2	75	45.8	55.7	70
11	Kempuhalla (Wagon Tippler)	07.12.2023	48.2	51.5	75	43.6	54.8	70
12	Danapura Bridge	07.12.2023	55.0	59.2	75	48.4	56.1	70
13	2nd Gate	08.12.2023	47.2	49.8	75	41.7	55.3	70
14	Project Store	08.12.2023	44.7	52.3	75	40.6	51.1	70
15	Dispatch (Truck Parking Area)	09.12.2023	58.1	70.4	75	54.1	60.5	70

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

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

**Note:**

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2. Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not use any advertising media without special permission in writing.
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6. Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey





## GLOBAL ENVIRONMENT & MINING SERVICES

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**ANNEXURE-39**  
**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/RO18  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Lutron: SL- 4023SD  
Sl. No: Q679952  
Instrument Details : Calibration Date: 02.11.2023  
Due Calibration: 01.11.2024  
Month : **DECEMBER - 2023**  
Report Issue Date : **06.01.2024**  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : **ULR-TC532323000001666F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	16.12.2023	47.2	58.8	75	42.4	55.8	70
2	Near ATM	16.12.2023	51.4	55.4	75	41.1	51.4	70
3	Transit House	18.12.2023	42.9	49.8	75	40.6	47.6	70
4	CAAQMS Station	18.12.2023	40.7	48.2	75	39.4	46.2	70
5	Gunda Road	19.12.2023	43.8	53.7	75	41.8	52.8	70
6	Gunda Railway Station	19.12.2023	49.5	68.2	75	47.1	61.4	70
7	Bagging Shed	20.12.2023	52.8	59.5	75	50.9	58.2	70
8	Railway Siding	20.12.2023	60.4	71.5	75	52.4	63.4	70
9	4th Gate	21.12.2023	46.5	59.4	75	51.6	58.9	70
10	Bricks Plant	21.12.2023	46.9	56.8	75	40.4	49.6	70
11	Kempuhalla (Wagon Tippler)	22.12.2023	45.6	56.2	75	49.1	55.4	70
12	Danapura Bridge	22.12.2023	53.2	60.0	75	54.6	63.2	70
13	2nd Gate	23.12.2023	42.1	53.8	75	40.8	51.1	70
14	Project Store	23.12.2023	42.5	49.8	75	39.2	46.4	70
15	Dispatch (Truck Parking Area)	24.12.2023	56.8	65.2	75	52.1	61.1	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

#### Note:

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**ANNEXURE-40**  
**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/RO18  
Sample collected by : Global Environment & Mining Services  
Discipline : Chemical  
Group : Atmospheric Pollution  
Sample Type : Noise Level Monitoring  
Particulars of Sample Collected : Lutron: SL- 4023SD  
Sl. No: Q679953  
Instrument Details : Calibration Date: 02.11.2023  
Due Calibration: 01.11.2024  
Month : **DECEMBER - 2023**  
Report Issue Date : **06.01.2024**  
Method Adopted : IS 9989-1981 Reaffirmed 2014  
Report No : **ULR-TC532323000001530F**

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	03.12.2023	47.9	53.2	52.86	55	37.9	44.1	42.07	45
2	Mariyammana Halli	03.12.2023	48.2	54.4	53.01		39.6	42.5	40.18	
3	Hanumana Halli	04.12.2023	48.6	53.1	52.84		36.1	44.7	42.06	
4	Galemmanagudi	03.12.2023	46.1	54.8	52.97		38.4	42.5	39.93	
5	G.Nagalapura Village	04.12.2023	42.8	53.4	51.02		40.2	43.6	38.62	
6	Gunda Tanda Village	04.12.2023	42.1	53.6	51.44		39.5	41.9	37.59	

Note: Each Location above the Noise Level taken Readings 15 Minutes.

#### **INFERENCE**

As per CPCB Standards,

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

  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

#### **NOISE: (AMBIENT STANDARDS)**

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

#### **Note:**

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TC-5323

**ANNEXURE-41**  
**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>4292</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001618F</b>

**Results**

Sl. No.	Parameters	Protocol	Unit	Danapur Village (GW1)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	<b>7.20</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>2700</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1674</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>222.6</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>308.3</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>158.72</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>34.80</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>540.0</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>489.80</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>0.48</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>20.36</b>	45	NR

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16.	Total Alkalinity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	<b>582.0</b>	200	600
<b>ANNEXURE-41</b>						
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>0.14</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>0.308</b>	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>0.243</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: GW1: Danapur Village. NR-No relaxation.**

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

**Analysed By**  
Priyanka B M  
Chemist**Authorised Signatory**  
K. Ramakrishna Reddy  
Technical Manager**Note:**

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ANNEXURE-41  
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	:	4292
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	06.01.2024

### 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  
Chemist

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

- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
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TC-5323

**ANNEXURE-42**  
**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>4294</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001620F</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>7.36</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>3000</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1860</b>	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.5</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>185.50</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>512.8</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>134.64</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>64.61</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>595.9</b>	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl-	mg/L	<b>499.8</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>0.82</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>15.12</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>593.6</b>	200	600

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TC-5323

**ANNEXURE-42**

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	0.12	0.30	NR
19.	Nickel as Ni	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.218	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.118	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 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

**Note: GW2: Hanumanahalli Village. NR-No relaxation.****INFERENCE****As per Standards IS: 10500:2012****Report Status: - Measured Values for the above parameters are within the limit.****Analysed By**  
Priyanka B M  
Chemist**Authorised Signatory**  
K. Ramakrishna Reddy  
Technical Manager**Note:**

1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-42  
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	:	4294
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	06.01.2024

### 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  
Chemist



Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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**ANNEXURE-43**  
**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>4295</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001621F</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>7.48</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>2850</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1767</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>110.60</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>189.8</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>182.76</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>30.88</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>584.0</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>529.78</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>0.91</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>15.71</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>560.0</b>	200	600

**Note:**

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TC-5323

**ANNEXURE-43**

17.	Acidity as CaCO <sub>3</sub>	APHA 22nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.11	0.30	NR
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.320	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.228	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: GW3: GalemmanaGudi Village. NR-No relaxation.****INFERENCE****As per Standards IS: 10500:2012****Report Status: - Measured Values for the above parameters are within the limits.****Analysed By****Priyanka B M****Chemist****Authorised Signatory****K. Ramakrishna Reddy****Technical Manager****Note:**

1. The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-43  
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	:	4295
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	06.01.2024

### 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  
Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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**ANNEXURE-44**  
**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>4293</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001619F</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>7.39</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>2400</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>1488</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>215.7</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>317.8</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>122.4</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>54.72</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>525.2</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>399.84</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>0.35</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>24.10</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>470.4</b>	200	600

### Note:

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TC-5323

**ANNEXURE-44**

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>0.13</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>0.238</b>	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<b>0.208</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: GW4: Mariyammanahalli Village. NR-No relaxation****INFERENCE****As per Standards IS: 10500:2012****Report Status: - Measured Values for the above parameters are within the limit.****Analysed By**  
Priyanka B M  
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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## GLOBAL ENVIRONMENT & MINING SERVICES

(Consulting Engineers, Mine designers, Geologist & Surveyors)

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

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e-mail : gems\_hpt@yahoo.com

Website: www.globalmining.in

ANNEXURE-44  
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>4293</b>
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	<b>06.01.2024</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  
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





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TC-5323

**ANNEXURE-45**  
**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>4296</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001622F</b>

## Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	<b>7.38</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>1150</b>	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>713</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>45.62</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>74.75</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>65.28</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>24.93</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>262.6</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>194.92</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>0.38</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>9.06</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>280.0</b>	200	600

### Note:

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TC-5323

ANNEXURE-45

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	0.12	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	0.214	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.105	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.

## INFERENCE

As per Standards IS: 10500:2012

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

Analysed By  
Priyanka B M  
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-45  
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	:	4296
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	06.01.2024

### 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  
Chemist

  
Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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TC-5323

ANNEXURE-46  
GEMS-LD/TF/23/01

### Analysis Report of Water Quality Data

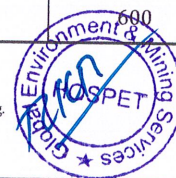
1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Ground Water
9	Sample Code	: 4297
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: 06.01.2024
15	Report Number	: ULR-TC532323000001623F

### 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)	-	7.10	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	1950	-	-
3.	Total Dissolved Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1209	500	2000
4.	Turbidity (NTU)	APHA 23 <sup>rd</sup> Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 -SO <sub>4</sub> <sup>2-</sup> E (Page No. 4-199 to 4-200)	mg/L	101.56	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	158.9	-	-
9.	Potassium as K	APHA 23 <sup>rd</sup> Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 <sup>rd</sup> Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	126.48	75	200
11.	Magnesium as Mg	APHA 23 <sup>rd</sup> Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	62.11	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	565.6	200	600
13.	Chloride as Cl	APHA 23 <sup>rd</sup> Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	364.85	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	0.68	1	1.5
15.	Nitrate Nitrogen as NO <sub>3</sub>	APHA 23 <sup>rd</sup> Edition 2017 4500 NO <sub>3</sub> E (Pg. No.4-131 to 4-132)	mg/L	11.41	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	537.6	200	

#### Note:

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TC-5323

### ANNEXURE-46

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	0.13	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	0.168	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.096	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: GW6:** Gunda Village. **NR**-No relaxation.

#### INFERENCE

**As per Standards IS: 10500:2012**

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

**Analysed By**  
Priyanka B M  
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-46  
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 : **4297**
- 10 Date of Sampling : 13.12.2023
- 11 Sample Received : 13.12.2023
- 12 Date of Analysis : 13.12.2023
- 13 Date of Analysis Completion : 19.12.2023
- 14 Report Issue Date : **06.01.2024**

### 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  
Chemist

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

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GEMS



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TC-5323

**ANNEXURE-47**  
**GEMS-LD/TF/23/01****Analysis Report of Water Quality Data**

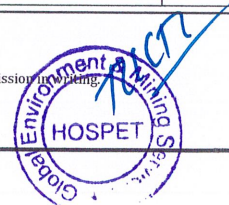
1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: RO Drinking Water
9	Sample Code	: <b>4298</b>
10	Date of Sampling	: 13.12.2023
11	Sample Received	: 13.12.2023
12	Date of Analysis	: 13.12.2023
13	Date of Analysis Completion	: 19.12.2023
14	Report Issue Date	: <b>06.01.2024</b>
15	Report Number	: <b>ULR-TC532323000001624F</b>

**Results**

Sl. No	Parameters	Protocol	Unit	RO Drinking Water	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>7.39</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>180</b>	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	<b>112</b>	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	<b>0.0</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>12.56</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>0.0</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>8.16</b>	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	<b>4.95</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>40.4</b>	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	<b>29.98</b>	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	<b>0.28</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>0.96</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>67.2</b>	200	600

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TC-5323

### ANNEXURE-47

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	0.06	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	<0.01	0.05	1.50
22.	Zinc as Zn	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	5	15
23.	Lead as Pb	APHA 23 <sup>rd</sup> Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 <sup>rd</sup> Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR
26.	Mercury as Hg	APHA 23 <sup>rd</sup> Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	Nil	0.001	NR

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

<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**  
**Chemist**

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

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ANNEXURE-47  
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	:	RO Drinking Water
9	Sample Code	:	4298
10	Date of Sampling	:	13.12.2023
11	Sample Received	:	13.12.2023
12	Date of Analysis	:	13.12.2023
13	Date of Analysis Completion	:	19.12.2023
14	Report Issue Date	:	06.01.2024

### Results

Sl. No	Parameters	Protocol	Unit	RO Drinking Water	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	colour	IS: 3025 (PART 4)- 1984, RA-2012 Platinum cobalt Method	Hazen	<5	5	15
2.	Odour	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agreeable	Agreeable	Agreeable
3.	Total Residual chlorine	IS:3025 (part 26)-1986, RA-2003, Iodometric method	mg/L	Nil	0.2	1.0
4.	Oil & Grease	Clause 6 of IS 3025 (Part 39) Infrared	mg/L	Nil	0.5	No Relaxation
5.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
6.	Selenium as Se	APHA 23 <sup>rd</sup> Edition 3114 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.01	No Relaxation
7.	Cyanides (as CN)	APHA 23 <sup>rd</sup> Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	NA	0.05	No Relaxation
8.	Phenolic Compound as phenols	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	1.0	-
9.	Anionic detergents (as MBAS)	APHA 23 <sup>rd</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	0.2	1.0
10.	Boron as B	APHA 23 <sup>rd</sup> Edition 2017 4500 B-B (p.no.4-25 to 4-26)	mg/L	<0.5	0.5	1.0
11.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation,

Analysed By  
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Chemist

Authorised Signatory  
K. Ramakrishna Reddy  
Technical Manager

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TC-5323

**ANNEXURE-48**  
**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	:	13.12.2023
10	Sample Received	:	13.12.2023
11	Date of Analysis	:	13.12.2023
12	Date of Analysis Completion	:	19.12.2023
13	Report Issue Date	:	<b>06.01.2024</b>
14	Report Number	:	<b>ULR-TC532323000001630F</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>	-	<b>4304</b>	<b>4305</b>	<b>4306</b>	
1.	pH	APHA 23 <sup>rd</sup> Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.57	7.33	7.51	6.5 to 8.5
2.	Total Suspended Solids	APHA 23 <sup>rd</sup> Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	12.0	18.0	8.0	<20
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	3.0	6.0	3.0	<10
4.	Chemical Oxygen Demand as COD	APHA 23 <sup>rd</sup> Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	20.4	43.2	20.4	<50
5.	Oil & Grease	APHA 23 <sup>rd</sup> Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	2.0	4.0	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**  
Chemist



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

**Note:**

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**ANNEXURE-48**  
**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>Sewage Treatment Plant (Outlet)</b>
9	Date of Sampling	:	13.12.2023
10	Sample Received	:	13.12.2023
11	Date of Analysis	:	13.12.2023
12	Date of Analysis Completion	:	19.12.2023
13	Report Issue Date	:	<b>06.01.2024</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>	-	<b>4304</b>	<b>4305</b>	<b>4306</b>	
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	-	Agree able	Agree able	Agree able	-
3.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	BDL	-
4.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	BDL	-
5.	Chromium (as Cr <sup>6+</sup> )	APHA-23 <sup>RD</sup> Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	<0.001	-
6.	Ammonical nitrogen as N	IS:3025 (part 34)-1988, RA-2014, Nesslerization method	mg/L	1.32	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  
Chemist



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

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TC-5323

**ANNEXURE-49**  
**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>Waste Water</b>
9	Date of Sampling	: 13.12.2023
10	Sample Received	: 13.12.2023
11	Date of Analysis	: 13.12.2023
12	Date of Analysis Completion	: 19.12.2023
13	Report Issue Date	: <b>06.01.2024</b>
14	Report Number	: <b>ULR-TC532323000001625F</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		
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.76	8.36	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	4.0	6.0	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	20.0	28.0	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	2.0	2.0	10

**Note:** BDL-Below detectable Limit.

**INFERENCE:** The Measured values are within the Limit.

**Analysed By**  
Priyanka B M  
Chemist

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

**Note:**

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ANNEXURE-50  
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	:	13.12.2023
10	Sample Received	:	13.12.2023
11	Date of Analysis	:	13.12.2023
12	Date of Analysis Completion	:	19.12.2023
13	Report Issue Date	:	<b>06.01.2024</b>

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
		<b>Sample code</b>		<b>4301</b>	<b>4302</b>	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	<b>7.40</b>	<b>7.51</b>	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	<b>0.0</b>	<b>0.0</b>	3.0
3.	Fluorides as F	APHA 23 <sup>RD</sup> Edition 4500F-D (Pg. No.4-90 to 4-91)	mg/L	<b>0.84</b>	<b>0.98</b>	1.5
4.	Arsenic as As	APHA-23 <sup>RD</sup> Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	<b>&lt;0.1</b>	<b>&lt;0.1</b>	0.2
5.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	<b>6.0</b>	<b>6.0</b>	>5.0
6.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	<b>&lt;5</b>	<b>&lt;5</b>	300
7.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	<b>BDL</b>	<b>BDL</b>	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	<b>BDL</b>	<b>BDL</b>	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	<b>&lt;0.001</b>	<b>&lt;0.001</b>	1.0
10.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	<b>BDL</b>	<b>BDL</b>	1.0
11.	<b>Total Coliform Organisms</b>					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	<b>Absent</b>	<b>Absent</b>	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	<b>Absent</b>	<b>Absent</b>	-

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

**Analysed By**  
Priyanka B M  
Chemist

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

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ANNEXURE-51  
GEMS-LD/TF/23/01

### Analysis Report of Surface Water Quality Data

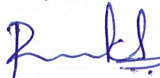
- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/R018
- 3 Sample collected by : GLOBAL Environment & Mining Services
- 4 Particulars of sample collected : Composite Sampling
- 5 Sampling Procedure : GEMS-LD/SOP/32
- 6 Discipline : Chemical
- 7 Group : Pollution & Environment
- 8 Sample Type : **Surface Water**
- 9 Date of Sampling : -
- 10 Sample Received : -
- 11 Date of Analysis : -
- 12 Date of Analysis Completion : -
- 13 Report Issue Date : **06.01.2024**

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
		<b>Sample code</b>		-	-	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	-	-	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	-	-	3.0
3.	Fluorides as F	APHA 23 <sup>RD</sup> Edition 4500F D (Pg. No.4-90 to 4-91)	mg/L	-	-	1.5
4.	Arsenic as As	APHA-23 <sup>RD</sup> Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	-	-	0.2
5.	Dissolved Oxygen	APHA 23 <sup>RD</sup> Edition 4500 C (Pg. No.4-146)	mg/L	-	-	>5.0
6.	Color	APHA 23 <sup>RD</sup> Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	-	-	300
7.	Cyanides (as CN)	APHA 23 <sup>RD</sup> Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	-	-	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	-	-	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	-	-	1.0
10.	Anionic detergents (as MBAS)	APHA 23 <sup>RD</sup> Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	-	-	1.0
11.	<b>Total Coliform Organisms,</b>					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	-	-	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	-	-	-

**Note:** BDL-Below detectable Limit

**INFERENCE:** The measured values are within the Limit.

**Water Sample not collected, Because KempuHalla no Water Flowing.**

  
**Analysed By**  
 Priyanka B M  
 Chemist

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

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ANNEXURE-52  
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	:	13.12.2023
10	Sample Received	:	13.12.2023
11	Date of Analysis	:	13.12.2023
12	Date of Analysis Completion	:	19.12.2023
13	Report Issue Date	:	<b>06.01.2024</b>

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
Sample Code				4303	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	8.00	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  
Priyanka B M  
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