

BMM ISPAT LTD



ENVIRONMENTAL MONITORING REPORT



at

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

Stage – I

SEPTEMBER - 2023

Prepared by



GLOBAL ENVIRONMENT & MINING SERVICES

NABL & MOEF RECOGNIZED LABORATORY

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PREFACE

The industries should monitor environmental parameters as per the frequency and locations given in the CFE/CFO. And the same should be submitted on every month to the respective pollution control board.

As part of the conditions and inherent concern on health of the employees and surroundings *M/s. BMM Ispat Ltd.*, as appointed *M/s. Global Environment & Mining Services, Hosapete*, to carry out the environmental pollution monitoring on AAQ Monitoring, Fugitive monitoring, Noise Monitoring, Water Analysis & Stack monitoring pollution and submit the same to the Pollution Control Board.

Accordingly, *M/s. Global Environment & Mining Services, Hosapete*, carried out the pollution monitoring as per the standard sampling methods prescribed by CPCB, for AAQ Monitoring, Fugitive monitoring within the plant, Stack Monitoring & Personal Dust Sampling as per the CFO. These monitoring has been carried out in a frequency as mentioned in the CFO and the same report is being submitted to the Board.

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

for GLOBAL Environment & Mining Services

Place: Hosapete

Date: 06.10.2023


K. Ramakrishna Reddy
(Technical Manager)



1.0 INTRODUCTION

M/s. BMM Ispat Ltd, (BMMIL) is a 2.0 million tons integrated steel plant, manufacturing steel with its state of art in advanced technology and protecting environment. It is committed produce quality product, in environmentally friendly technology. Adopting sufficient air pollution control equipment's, recycling and reusing all the water with 'Zero' discharge facility, generating valuable electric power with waste heat recovery boilers (WHRB) and resource optimizing and minimizing the energy needs through re-utilizing char for CFBC boilers.

M/s. BMM ISPAT Ltd., Presently operating the following units under Stage-I units (Manufacturing units coming under 2.0 MTPA integrated steel plant is monitored and are reported separately);

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

The report includes environmental monitoring data collected at above site and its surrounding areas, for the month of **SEPTEMBER -2023**. The Parameters monitored are:

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

2.0 SCOPE AND METHODOLOGY

2.1 PREAMBLE

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

2.2 AMBIENT AIR QUALITY

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

2.2.1 PARTICULATE MATTER (PM10)(size less than 10 μ m).

Purpose

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

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

Principle of the method

Air is drawn through a size-selective inlet and through a 20.3X25.4 cm (8X10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM10 in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.

Sampling

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

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

Analysis

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

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

Purpose

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

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

Principle

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

2.2.3 Sulphur Dioxide (SO₂).

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

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

Sulphur dioxide from air is absorbed in a solution of potassium tetra chloromercurate (TCM). A 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 (NO₂):

Purpose

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

Principle of the method

Modified Jacobs &Hochheiser Method (IS 5182 Part 6 Methods for Measurement of Air Pollution: Oxides of nitrogen)Ambient nitrogen dioxide (NO₂) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO₂) produced during sampling is determined calorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine di-hydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dye at 540 nm.

2.2.5 Ozone (Chemical method)

Purpose

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

Principle of the method

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

Sampling

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

Analysis

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

2.2.6 Ammonia (NH₃)

Purpose

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

Principle of the method

Indophenol method Ammonia in the atmosphere is collected by bubbling a measured volume of air through a dilute solution of sulphuric acid to form ammonium sulphate.

The ammonium sulphate formed in the sample is analyzed calorimetrically by reaction with phenol and alkaline sodium hypochlorite to produce indophenol. The reaction is accelerated by the addition of Sodium Nitroprusside as catalyst.

Sampling

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

Analysis

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

2.2.7 Benzo(a)Pyrene

Purpose

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

Principle of the Method

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

Sampling

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

Sample Processing

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

Alternatively, sample can be extracted using Soxhlet extraction apparatus for about 8 hr. with Toluene and repeat it twice.

Filtration

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

Sample injection

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

2.2.8 Benzene

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

Principle of the Method

IS 5182 (Part 11): 2006, The charcoal tubes are available in different sizes and contain varying amount of activated charcoal. The ambient air is sucked through the tube using a low flow sampler used for collection of BTX sample in a way that results in an enrichment of the relevant substances in the activated charcoal. Desorption of the adsorbed benzene is done using carbon disulphide (CS₂). The substances desorbed in the CS₂ are analyzed by capillary gas chromatography. A flame ionization detector (FID) is used for analysis while quantification is performed using the internal/external standard.

Gas Chromatograph

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

Sampling

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

Analytical Procedure

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

2.2.9Carbon Monoxide (CO)

Principle:

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

Non dispersive Infrared (NDIR) Gas Analyser

The apparatus shall be constructed so as to be suitable for operating within the temperature range of 15°C to 40°C and in a relative humidity range of 0 to 90 percent. The apparatus shall embody facilities for the analysis of continuously applied sample or a discrete sample of volume of 2.0 litres. In the later case the purification train shall be of such a design and dead volume that 2.0 litre is adequate for its proper flushing out. The apparatus shall include facilities for the visual inspection of results and also for their recording. The scale shall be divided into steps of 1.0 percent full scale division (fsd).

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

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

Purpose

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

Principle of the method

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

Sampling procedure

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

2.3 NOISE LEVELS

Measuring Equipment

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

Conditions of Measurement

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

Outdoor measurements should be made at 1.2 to 1-5 m above the ground and, if practical, at least 3.5 m from walls, buildings or other sound reflecting structures. When circumstances indicate, measurements may be made at greater heights and closer to the

wall (for example 0-5 m in front of an open window), provided this is specified and taken into consideration.

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

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

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

2.4 WATER SAMPLING

Collection and Preservation of Samples

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

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

Record of sample shall be as follows:

General information

- Sample identification number
- Location
- Sample collector
- Date and hour
- Sample type (Grab or composite)

Collection of Samples

Ground Water:

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

Surface water:

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

Sewagetreatment plant water.

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

2.5 Fugitive Emission Monitoring

Fugitive air quality was monitored 36 samples were collected from the analyzed for SPM analyzed by gravimetric method. Work Zone Air quality was monitored at all Plant area, and material handling area.

2.6 Stack monitoring method

Stack Monitoring was Monitored 26 Samples Collected from Vayubodhan Stack sampler VSS 1 stack monitoring kit was used for drawing the flue gas. Sulphur dioxide and oxides of nitrogen in the flue gas were sampled by bubbling flue gas in 3% H₂O₂ and 0.1N NaOH solution respectively and the analysis of the pollutants were done as per the Indian standard procedures prescribed by CPCB/BIS. Stack emission level was monitored as per the statutory requirement on twice in a month.

Stack Emissions Monitoring Methodology

Pre-Sampling Activities

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

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

Traverse Point Calculation

Calculate the traverse point and accordingly mark the distance from tip of the Nozzle, on Pitot tube and probe. Do not forget to add the collar length of port to the calculated traverses. For detailed calculation of "Stack Monitoring– Material and Methodology for isokinetic sampling.

Determination of Dust Concentration

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

2.7 DATA ANALYSIS

2.7.1 BUFFERZONE AMBIENT AIR QUALITY STATUS

Danapur Village (A1)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 72.00., 23.51, 10.79 & 12.56 µg/m³ 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 64.40, 19.37, 9.47 & 11.56 µg/m³ 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 62.78, 15.89, 9.02 & 10.98 µg/m³ 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 59.31, 14.44 8.15 & 9.50 µg/m³ respectively. All above the values were found within the Limits. Results given in **Annexure-4**.

Gunda Village (A5)

At this location, average of PM10, PM2.5, SO2, NO2 values Average 52.04, 13.02, 6.77 & 8.66 µg/m³ 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 57.62, 16.46, 7.68 & 10.03 µg/m³ respectively. All above the values were found within the Limits. Results given in **Annexure-6**.

2.8 FUGITIVE DUST CONCENTRATION

Fortnightly fugitive air quality was monitored all plant area SPM value minimum 178.08 $\mu\text{g}/\text{m}^3$, maximum value 1947.93 $\mu\text{g}/\text{m}^3$, and average value 918.66 $\mu\text{g}/\text{m}^3$. The Fugitive air quality 1st & 2nd Fortnight Results given in **Annexure-7 & Annexure-8**.

2.9 STACK MONITORING

Stack emission level was monitored as per the statutory requirement on twice in month. Stack emission level was monitored all chimneys' PM values (mg/Nm^3) 1st and 2nd Fort Night Minimum Value 6.33 mg/Nm^3 , Maximum Value 38.38 mg/Nm^3 & Average Value 23.68 mg/Nm^3 . The Stack Emission Results given in **Annexure-9 to Annexure-22**.

3.0 AMBIENT NOISE LEVEL MEASUREMENT

Noise level was recorded at 30 locations each in Ambient and work zone area using Sound Level Meter (Equinox-EQ 107 Instrument / SL-4001) The Day & Night time noise level values were ranging between 42.5 to 68.5 dB (A) and 39.4 to 64.6 dB (A). The noise level status is given in **Annexure-23 to Annexure-25**.

3.1 Water Sample Collected at 17 locations in side plant and surrounding nearest villages and nearest surface water Sample Collected every Month. The Water Analysis Test Report is given in **Annexure-26 to Annexure-37**.

3.2 CONCLUSION

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



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TC-5323

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/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 : **SEPTEMBER - 2023**
Location : **A1-Danapur Village**
Duration of Monitoring : 24 Hour
Report Issued Date : **06.10.2023**
Report Number : **ULR-TC532323000000910F**

RESULTS

Parameters			PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS:5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2023	06.09.2023	2695	79.95	100	27.17	60	10.07	80	12.81	80
06.09.2023	07.09.2023	2708	66.90		22.97		8.30		9.33	
13.09.2023	04.09.2023	2848	69.43		20.62		11.74		14.17	
14.09.2023	05.09.2023	2879	62.60		17.77		10.85		10.69	
19.09.2023	20.09.2023	2925	70.35		27.56		9.52		15.05	
20.09.2023	21.09.2023	2953	79.50		27.45		9.96		10.20	
27.09.2023	28.09.2023	3075	71.55		21.85		12.07		16.29	
28.09.2023	29.09.2023	3087	75.72		22.68		13.84		11.94	
Average			72.00		23.51		10.79		12.56	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / AAS-217 BL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 14-A-142	PM2.5/PM10 Sampler / 158-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

INFERENCE

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

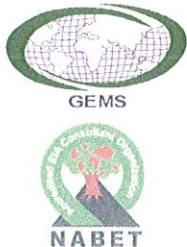
T.R. Pooja
Analysed By
T.R.Pooja
Chemist

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



Note:

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



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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 : SEPTEMBER - 2023
Location : A2-Mariyammanahalli Village
Duration of Monitoring : 24 Hour
Report Issued Date : 06.10.2023
Report Number : ULR-TC532323000000941F

RESULTS

Parameters			PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.09.2023	08.09.2023	2742	64.23	100	19.86	60	10.19	80	11.56	80
08.09.2023	09.09.2023	2760	72.81		15.21		6.64		8.83	
11.09.2023	12.09.2023	2815	69.27		18.64		11.07		11.44	
12.09.2023	12.09.2023	2839	64.29		14.43		8.14		13.06	
21.09.2023	22.09.2023	2976	57.86		21.46		10.96		10.69	
22.09.2023	23.09.2023	2996	62.88		26.26		7.53		12.93	
25.09.2023	26.09.2023	3033	54.25		18.74		11.74		14.17	
26.09.2023	27.09.2023	3052	69.61		20.39		9.19		9.82	
Average			64.40		19.37		9.47		11.56	

SL.NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / APM -460BL	Enviro instruments / EI-133
3	Serial No	R.D.S./330-DTF-2005	PM2.5 /PM10 Sampler / 159-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

INFERENCE

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

Pooja
Analysed By
T.R.Pooja
Chemist

TUCR
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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Ph : 08394 355369

e-mail : gems_hpt@yahoo.com

Website: www.globalmining.in

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/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 : SEPTEMBER- 2023
 Location : A1-Danapur Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 06.10.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.09.2023	2695	0.12	4.0
2	06.09.2023	2708	0.10	
3	13.09.2023	2848	0.10	
4	14.09.2023	2879	0.11	
5	19.09.2023	2925	0.10	
6	20.09.2023	2953	0.12	
7	27.09.2023	3075	0.11	
8	28.09.2023	3087	0.13	

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

ND - Not Detected

SL NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	08.07.2023
5	Calibration Due Date	07.07.2024

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

Pooja
 Analysed By
 T.R.Pooja
 Chemist

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



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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/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 : SEPTEMBER- 2023
 Location : A2-Mariyammanahalli Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 06.10.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.09.2023	2742	0.13	4.0
2	08.09.2023	2760	0.11	
3	11.09.2023	2815	0.10	
4	12.09.2023	2839	0.12	
5	21.09.2023	2976	0.10	
6	22.09.2023	2996	0.11	
7	25.09.2023	3033	0.12	
8	26.09.2023	3052	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
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Pooja
 Analysed By
 T.R.Pooja
 Chemist

K. Ramakrishna Reddy
 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/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 : SEPTEMBER - 2023
Location : A3-Hanumanahalli Village
Duration of Monitoring : 24 Hour
Report Issued Date : 06.10.2023
Report Number : ULR-TC532323000000674F

RESULTS

Parameters			PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS:5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.09.2023	08.09.2023	2741	65.14	100	15.80	60	9.19	80	12.31	80
08.09.2023	09.09.2023	2759	74.94		12.28		7.53		9.08	
13.09.2023	14.09.2023	2850	69.95		15.93		11.85		13.18	
14.09.2023	15.09.2023	2880	59.38		21.94		9.52		11.94	
19.09.2023	20.09.2023	2926	54.86		13.83		6.75		9.20	
20.09.2023	21.09.2023	2951	61.77		13.79		8.97		10.32	
27.09.2023	28.09.2023	3074	64.15		15.15		8.30		10.38	
28.09.2023	29.09.2023	3085	52.05		18.41		10.07		11.44	
Average			62.78		15.89		9.02		10.98	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Greentech instruments / GTI-151	Enviro instruments / EI-133
3	Serial No	R.D.S./242-DTC-2020	PM2.5 /PM10 Sampler / 160-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

INFERENCE

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

Analysed By
T.R.Pooja
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-03
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/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 : SEPTEMBER- 2023
 Location : A3-Hanumanahalli Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 06.10.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.09.2023	2741	0.16	4.0
2	08.09.2023	2759	0.10	
3	13.09.2023	2850	0.14	
4	14.09.2023	2880	0.18	
5	19.09.2023	2926	0.10	
6	20.09.2023	2951	0.12	
7	27.09.2023	3074	0.10	
8	28.09.2023	3085	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
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Pooja
 Analysed By
 T.R.Pooja
 Chemist

KR
 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/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 : **SEPTEMBER - 2023**
Location : **A4-Galemmanagudi Village**
Duration of Monitoring : 24 Hour
Report Issue Date : **06.10.2023**
Report Number : **ULR-TC532323000000911F**

RESULTS

Parameters			PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS :5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Sample Received	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2023	06.09.2023	2696	63.82	100	18.51	60	8.30	80	11.31	80
06.09.2023	07.09.2023	2709	59.59		15.57		10.07		9.08	
11.09.2023	12.09.2023	2814	60.19		13.53		8.41		10.20	
12.09.2023	13.09.2023	2841	65.98		13.05		7.42		7.96	
21.09.2023	22.09.2023	2974	57.95		14.48		6.53		9.20	
22.09.2023	23.09.2023	2994	52.64		15.44		9.30		8.83	
25.09.2023	26.09.2023	3034	59.06		13.04		8.64		8.33	
26.09.2023	27.09.2023	3053	55.28		11.91		6.53		11.13	
Average			59.31		14.44		8.15		9.50	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / AAS-217 BL	Enviro instruments / EI-133
3	Serial No	R.D.S. / 14-A-142	PM2.5 / PM10 Sampler / 158-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Pooja
Analysed By
T.R.Pooja
Chemist

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



Note:

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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 : SEPTEMBER- 2023
 Location : A4-Galemmanagudi Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 06.10.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.09.2023	2696	0.14	4.0
2	06.09.2023	2709	0.10	
3	11.09.2023	2814	0.18	
4	12.09.2023	2841	0.12	
5	21.09.2023	2974	0.20	
6	22.09.2023	2994	0.11	
7	25.09.2023	3034	0.11	
8	26.09.2023	3053	0.16	

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

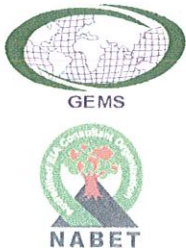
INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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Pooja R
 Analysed By
 T.R.Pooja
 Chemist

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



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TC-5323

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler, FPS Sampler
Month : SEPTEMBER - 2023
Location : A5-Gunda Village
Duration of Monitoring : 24 Hour
Report Issue Date : 06.10.2023
Report Number : ULR-TC532323000000912F

RESULTS

Parameters			PM10 [µg/m3]		PM2.5 [µg/m3]		SO2 [µg/m3]		NO2 [µg/m3]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS:5182: (Part-6) 2006 (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
05.09.2023	06.09.2023	2697	46.22	100	15.88	60	7.41	80	8.82	80
06.09.2023	07.09.2023	2710	54.52		12.42		6.64		9.33	
11.09.2023	12.09.2023	2813	49.58		12.94		7.86		8.56	
12.09.2023	13.09.2023	2840	48.97		10.45		5.65		8.46	
19.09.2023	20.09.2023	2927	64.38		14.40		6.86		7.07	
20.09.2023	21.09.2023	2952	57.89		11.68		6.20		9.20	
25.09.2023	26.09.2023	3035	46.09		11.86		5.65		8.21	
26.09.2023	27.09.2023	3054	48.66		14.54		7.96		9.69	
Average			52.04		13.02		6.77		8.66	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Enviro instruments / APM -460 BL	Enviro instruments / EI-133
3	Serial No	R.D.S./330-DTF-2005	PM2.5 /PM10 Sampler / 159-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By
T.R.Pooja
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/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 : SEPTEMBER- 2023
 Location : A5-Gunda Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 06.10.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.09.2023	2697	0.02	4.0
2	06.09.2023	2710	<0.01	
3	11.09.2023	2813	0.02	
4	12.09.2023	2840	<0.01	
5	19.09.2023	2927	<0.01	
6	20.09.2023	2952	<0.01	
7	25.09.2023	3035	<0.01	
8	26.09.2023	3054	<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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Poojatr
 Analysed By
 T.R.Pooja
 Chemist

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



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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	: Respirable Dust Sampler, FPS Sampler
Month	: SEPTEMBER - 2023
Location	: A6-Gunda Tanda Village
Duration of Monitoring	: 24 Hour
Report Issue Date	: 06.10.2023
Report Number	: ULR-TC532323000000939F

RESULTS

Parameters			PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method			IS:5182: 2006 (Part-23) (RF-2017)		USEPA 2001 Gravimetric Method		IS:5182: 2001 (Part-2) (RF-2017)		IS:5182: 2006 (Part-6) (RF-2017)	
Date of Sampling	Date of Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.09.2023	08.09.2023	2740	57.41	100	16.70	60	8.52	80	10.69	80
08.09.2023	09.09.2023	2758	49.74		18.13		7.64		9.70	
13.09.2023	14.09.2023	2849	46.30		15.51		9.19		12.06	
14.09.2023	15.09.2023	2881	58.73		15.01		5.20		8.08	
21.09.2023	22.09.2023	2975	60.18		19.13		8.64		11.31	
22.09.2023	23.09.2023	2995	63.36		14.96		5.54		8.33	
27.09.2023	28.09.2023	3032	58.47		17.48		7.64		10.20	
28.09.2023	29.09.2023	3086	66.77		14.77		9.08		9.87	
Average			57.62		16.46		7.68		10.03	

SL NO	INSTRUMENT DETAILS		
1	Instrument Name	Respirable Dust Sampler (RDS)	Fine Particulate Sampler (FPS)
2	Make & Model	Greentech instruments / GTI -151	Enviro instruments / EI-133
3	Serial No	R.D.S./242-DTC-2020	PM2.5 /PM10 Sampler / 160-K-20
4	Calibration Date	01.04.2023	06.03.2023
5	Calibration Due Date	31.03.2024	05.03.2024

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

Analysed By
T.R.Pooja
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
- Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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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 : **SEPTEMBER- 2023**
 Location : **A6-Gunda Tanda Village**
 Duration of Monitoring : 1 Hour
 Report Issued Date : **06.10.2023**

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.09.2023	2740	<0.01	4.0
2	08.09.2023	2758	<0.01	
3	13.09.2023	2849	<0.01	
4	14.09.2023	2881	0.02	
5	21.09.2023	2975	<0.01	
6	22.09.2023	2995	<0.01	
7	27.09.2023	3032	<0.01	
8	28.09.2023	3086	<0.01	

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

ND - Not Detected

Sl. NO	INSTRUMENT DETAILS	
1	Instrument Name	CO Gas Detector
2	Make & Model	Vasthi Instruments Pvt Ltd & VS-70-70-CO
3	Serial No	180883821
4	Calibration Date	08.07.2023
5	Calibration Due Date	07.07.2024

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

Pooja
 Analysed By
 T.R.Pooja
 Chemist

TKR
 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	: SEPTEMBER- 2023(1st Fort Night)
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Method adopted	: IS 5182 (Part 4): 1999 RA 2014
9	Report Issued Date	: 06.10.2023
10	Report Number	: GEMS/BMM/FM/2023-24/887

RESULTS

Sl. No.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM ($\mu\text{g}/\text{m}^3$)	Standard
I. Beneficiation Plant-1						
1.	Main Canteen	2751	08.09.2023	09.09.2023	792.94	2000
2.	Main Crusher	2752	08.09.2023	09.09.2023	701.69	2000
3.	Iron Ore Screen	2760	08.09.2023	09.09.2023	907.86	2000
II. Pellet Plant-I						
4.	Near Pellet Plant	2753	08.09.2023	09.09.2023	1945.37	2000
5.	Annual Cooler Pellet Discharge bin	2754	08.09.2023	09.09.2023	1469.23	2000
6.	Pellet Stock Yard	2771	09.09.2023	09.09.2023	1937.59	2000
III. Sponge Iron Division-1 (kiln 1 & 2)						
7.	Control Room SID-1	2806	11.09.2023	12.09.2023	1946.64	2000
8.	Near Product bin	2807	11.09.2023	12.09.2023	1358.38	2000
9.	Coal Feeding Area	2808	11.09.2023	12.09.2023	784.51	2000
IV. Induction Furnace & Rolling Mill – 1						
10.	IF Office	2772	09.09.2023	09.09.2023	1025.34	2000
11.	TMT Stock Yard	2773	09.09.2023	09.09.2023	1152.96	2000
12.	RML Gasifier	2774	09.09.2023	09.09.2023	1947.93	2000
V. Power Plant 25 MW-1						
13.	25 MW ESP	2809	11.09.2023	12.09.2023	703.60	2000
14.	25 MW ACC	2835	12.09.2023	13.09.2023	178.08	2000
VI. Site Services						
15.	PGP- coal handling system	2775	09.09.2023	09.09.2023	1280.31	2000
16.	IF Slag Crusher	2810	11.09.2023	12.09.2023	750.36	2000
17.	Main Gate	2836	12.09.2023	13.09.2023	231.79	2000
18.	Fly ash Dump	2873	07.09.2023	08.09.2023	867.29	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

Pooja
Analysed By
T.R.Pooja
Chemist

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



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

FORTNIGHTLY FUGITIVE AIR QUALITY MONITORING DATA

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: RDS Sampler (GEMS-01, GEMS-02, GEMS-03, GEMS-04, GEMS-05)
5	Month	: SEPTEMBER- 2023(2nd Fort Night)
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Method adopted	: IS 5182 (Part 4) 1999 RA 2014
9	Report Issued Date	: 06.10.2023
10	Report Number	: GEMS/BMM/FM/2023-24/915

RESULTS

Sl. NO.	Location / Plant	Sample Code	Date Of Monitoring	Date Of Sample Receipt	SPM ($\mu\text{g}/\text{m}^3$)	Standard
I. Beneficiation Plant-1						
1.	Main Canteen	3020	23.09.2023	24.09.2023	826.25	2000
2.	Main Crusher	3018	23.09.2023	24.09.2023	1089.32	2000
3.	Iron Ore Screen	3019	23.09.2023	24.09.2023	1322.17	2000
II. Pellet Plant-I						
4.	Near Pellet Plant	3021	23.09.2023	24.09.2023	988.12	2000
5.	Annual Cooler Pellet Discharge bin	3022	23.09.2023	24.09.2023	1067.90	2000
6.	Pellet Stock Yard	3036	27.09.2023	28.09.2023	920.46	2000
III. Sponge Iron Division-1(kiln 1 & 2)						
7.	Control Room SID-I	3006	27.09.2023	28.09.2023	584.80	2000
8.	Near Product bin	3007	27.09.2023	28.09.2023	1055.94	2000
9.	Coal Feeding Area	3008	27.09.2023	28.09.2023	842.14	2000
IV. Induction Furnace & Rolling Mill						
10.	IF Office	3038	25.09.2023	26.09.2023	526.08	2000
11.	TMT Stock Yard	3039	25.09.2023	26.09.2023	471.74	2000
12.	RML Gasifier	3040	25.09.2023	26.09.2023	391.0	2000
V. Power Plant 25 MW-1						
13.	25 MW ESP	3009	27.09.2023	28.09.2023	368.15	2000
14.	25 MW ACC	3060	28.09.2023	29.09.2023	298.86	2000
VI. Site Services						
15.	PGP- Coal handling system	3037	25.09.2023	26.09.2023	495.65	2000
16.	IF Slag Crusher	3061	27.09.2023	28.09.2023	953.97	2000
17.	Main Gate	3068	28.09.2023	29.09.2023	249.12	2000
18.	Fly ash Dump	3007	22.09.2023	23.09.2023	638.55	2000

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

SL NO	INSTRUMENT DETAILS	GEMS-01	GEMS-02	GEMS-03	GEMS-04	GEMS-05
1	Instrument Name	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler	Respirable Dust Sampler
2	Make & Model	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151	Greentech Instruments/ GTI-151
3	Serial No	RDS / 241-DTC-2020	RDS / 243-DTL-2020	RDS / 244-DTL-2020	RDS / 193-DTH-2019	RDS / 197-DTH-2019
4	Calibration Date	01.04.2023	01.04.2023	01.04.2023	01.04.2023	01.04.2023
5	Calibration Due Date	31.03.2024	31.03.2024	31.03.2024	31.03.2024	31.03.2024

Pooja
Analysed By
T.R.Pooja
Chemist

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



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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: Pellet Plant-1 ESP
10	Month of Sampling	: SEPTEMBER - 2023
11	Date of Sample Received	: 01.09.2023 & 16.09.2023
12	Date of Sample Analysis	: 02.09.2023 & 16.09.2023
13	Date of Sample Analysis completion	: 02.09.2023 & 17.09.2023
14	Report Issued Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000878F

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
				1st Fort Night	2nd Fort Night	
				01.09.2023	16.09.2023	
	Date of Monitoring			2642	2903	
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	31	30	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	68	65	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.12	5.17	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m³/hr	280301	283038	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm³/hr	244632	249888	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm³	33.92	38.38	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm³	21.25	23.96	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm³	139.21	148.11	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.030	0.026	-

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

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

T.R. Pooja
Authorised Signatory & Mining Services
K. Ramakrishna Reddy
Technical Manager
GLOBAL ENVIRONMENT & MINING SERVICES
HOSAPETE

Note:

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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/R018
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: 2X100 TPD Sponge iron plant Kiln 1 & 2
10	Month of Sampling	: SEPTEMBER - 2023
11	Date of Sample Received	: 08.09.2023 & 23.09.2023
12	Date of Sample Analysis	: 09.09.2023 & 23.09.2023
13	Date of Sample Analysis completion	: 10.09.2023 & 24.09.2023
14	Report Issued Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000950F

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 st Fort Night	2 nd Fort Night	
				08.09.2023	23.09.2023	
	Date of Monitoring					
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	29	30	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	172	131	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.92	5.91	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m ³ /hr	66962	66849	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr	44736	49290	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³	22.39	34.82	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³	281.02	291.12	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm ³	34.36	20.23	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.071	0.274	-

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

Pooja R
Analysed By
T.R.Pooja
Chemist

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

Note:

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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Month of Sampling	: SEPTEMBER - 2023 (1st Fort Night)
10	Date of Sample Received	: 11.09.2023
11	Date of Sample Analysis	: 11.09.2023
12	Date of Sample Analysis completion	: 11.09.2023
13	Report Issued Date	: 06.10.2023
14	Report Number	: ULR-TC532323000000996F

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 ³	KSPCB Std mg/Nm ³
Induction Furnance 1 & 2											
1	Induction Furnance 1	-	-	Electric	-	-	-	30	1.0	-	50
2	Induction Furnance 2	11.09.2023	2811	Power	30	44	5.68	30	1.0	9.34	50

Sl. No	Induction Furnance 1 & 2	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
1	Induction Furnance 1	-	-	-
2	Induction Furnance 2	27145	25457	-

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

Pooja
Analysed By
T.R.Pooja
Chemist

KR
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/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Sampling Location	: Rolling mill reheating furnace
10	Month of Sampling	: SEPTEMBER - 2023
11	Date of Sample Received	: 07.09.2023
12	Date of Sample Analysis	: 08.09.2023
13	Date of Sample Analysis completion	: 08.09.2023
14	Report Issued Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000936F

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 st Fort Night	2 nd Fort Night	
				07.0.2023	-	
	Date of Monitoring			2737		
	Sample Code					
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	28	Shutdown	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	375		-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.74		-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m ³ /hr	10388		-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr	4761.6		-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³	13.04		100
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³	324.04		270
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm ³	132.26		50
9	Carbon Monoxide	GEMS/SOP/69	%	0.061		-

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

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

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



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TC-5323

ANNEXURE-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	Sampling Location	: AFBC Boiler ESP (25 MW Power Plant)
10	Month of Sampling	: SEPTEMBER - 2023
11	Date of Sample Received	: -
12	Date of Sample Analysis	: -
13	Date of Sample Analysis completion	: -
14	Report Issued Date	: 06.10.2023
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
				1st Fort Night	2nd Fort Night	
				-	-	
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 ³ /hr			-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr			-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³			50
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³			600
8	Nitrogen Dioxide	IS: 11255 (Part 7): 2005 (RA 2017)	mg/Nm ³			300
9	Carbon Monoxide	GEMS/SOP/69	%			-

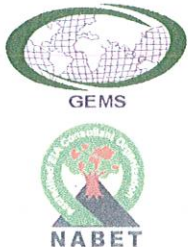
Note: NS- Not Specified. RA: Reaffirmed,

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Month of Sampling	: SEPTEMBER - 2023 (1 st Fort Night)
10	Date of Sample Received	: 13.09.2023
11	Date of Sample Analysis	: 14.09.2023
12	Date of Sample Analysis completion	: 14.09.2023
13	Report Issued Date	: 06.10.2023
14	Report Number	: ULR-TC532323000001010F

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
Beneficiation Plant -I											
1	Iron Ore dump hopper	13.09.2023	2846	-	31	35	4.68	25	0.40	18.81	50
2	Iron Ore Screen bin	13.09.2023	2847	-	32	36	4.91	30	0.40	17.26	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
1	Iron Ore dump hopper	2117	2045	-
2	Iron Ore Screen bin	2222	2135	-

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

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

T.R. Pooja
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Month of Sampling	: SEPTEMBER - 2023 (1st Fort Night)
10	Date of Sample Received	: 09.09.2023 & 12.09.2023
11	Date of Sample Analysis	: 10.09.2023 & 13.09.2023
12	Date of Sample Analysis completion	: 10.09.2023 & 13.09.2023
13	Report Issued Date	: 06.10.2023
14	Report Number	: ULR-TC532323000000970F

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
RMHS											
3	Screen, Coal Crusher(CPU)	09.09.2023	2779	-	31	37	5.19	3.0	0.30	30.61	50
4	Main Crusher	12.09.2023	2838	-	30	35	4.71	35	0.50	13.10	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
3	Screen, Coal Crusher(CPU)	33022	31606	-
4	Main Crusher	3330	3208	-

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

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

T.R. Pooja
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ 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	: SEPTEMBER - 2023 (1 st Fort Night)
10	Date of Sample Received	: 01.09.2023 & 02.09.2023
11	Date of Sample Analysis	: 01.09.2023 & 02.09.2023
12	Date of Sample Analysis completion	: 02.09.2023 & 03.09.2023
13	Report Issued Date	: 06.10.2023
14	Report Number	: ULR-TC532323000000879F

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
Pellet Plant -I											
5	AGB Main Bag Filter	01.09.2023	2643	---	33	37	4.49	6.5	0.60	26.91	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	01.09.2023	2664	---	33	38	4.78	3.0	0.30	31.11	50
7	Bentonite Powder bin top bag filter	02.09.2023	2664	---	32	37	4.56	3.0	0.30	29.94	50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	02.09.2023	2665	---	32	40	5.94	7.0	0.50	26.50	50

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
5	AGB Main Bag Filter	4571	4378	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1217	1161	-
7	Bentonite Powder bin top bag filter	1161	1111	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3492	3311	-

Parameter	Protocol
Particulate Matter (mg/Nm ³)	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
T.R. Pooja
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Stack Emission

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services, Hosapete
4	Particulars of sample collected	: Vayubodhak Stack sampler/ VBSS-2 Sl. No: Stack Monitoring Kit/ 032308
5	Instrument Details	: Calibration Date: 28.03.2023 Calibration Due Date: 27.03.2024
6	Discipline	: Chemical
7	Group	: Atmospheric Pollution
8	Sample Type	: Stack Monitoring
9	Month of Sampling	: SEPTEMBER - 2023 (1st Fort Night)
10	Date of Sample Received	: 09.09.2023 & 11.09.2023
11	Date of Sample Analysis	: 09.09.2023 & 11.09.2023
12	Date of Sample Analysis completion	: 10.09.2023 & 12.09.2023
13	Report Issued Date	: 06.10.2023
14	Report Number	: ULR-TC532323000000969F

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
2 X 100 TPD Sponge Iron Kiln 1 & 2											
10	Cooler-1 Discharge & Blending Chute	09.09.2023	2778	---	46	30	4.70	30	1.20	25.35	50
11	Cooler-2 Discharge	11.09.2023	2812	---	47	31	4.88	30	1.20	27.86	50
12	Intermediate Bin & Blending	11.09.2023	2833	---	48	31	4.80	30	1.20	28.86	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 ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
10	Cooler-1 Discharge & Blending Chute	19139	18363	-
11	Cooler-2 Discharge	19872	19104	-
12	Intermediate Bin & Blending	19546	18708	-
13	Product House	-	-	-

Parameter	Protocol
Particulate Matter (mg/Nm ³)	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
T.R.Pooja
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **SEPTEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 29.09.2023
- 11 Date of Sample Analysis : 29.09.2023
- 12 Date of Sample Analysis completion : 30.09.2023
- 13 Report Issued Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000001098F**

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 ³	KSPCB Std mg/Nm ³
Induction Furnance 1 & 2											
1	Induction Furnance 1	-	-	Electric	28	40	5.34	30	1.0	6.33	50
2	Induction Furnance 2	29.09.2023	3109	Power	29	41	5.97	30	1.0	10.35	50

Sl. No	Induction Furnance 1 & 2	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
1	Induction Furnance 1	21745	11896	-
2	Induction Furnance 2	28531	27027	-

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

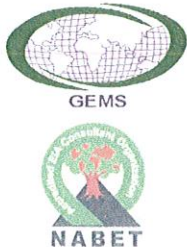
Pooja
Analysed By
T.R.Pooja
Chemist

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



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TC-5323

ANNEXURE-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/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 : **SEPTEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : -
- 11 Date of Sample Analysis : -
- 12 Date of Sample Analysis completion : -
- 13 Report Issued Date : **06.10.2023**
- 14 Report Number : -

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
Beneficiation Plant											
1	Iron Ore dump hopper	-	-	---	-	-	-	25	0.40	-	50
2	Iron Ore Screen bin	-	-	---	-	-	-	30	0.40	-	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
1	Iron Ore dump hopper	-	-	-
2	Iron Ore Screen bin	-	-	-

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

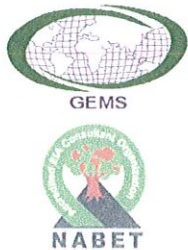
Pooja R
Analysed By
T.R.Pooja
Chemist

T.K.R.
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/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 : **SEPTEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 25.09.2023 & 28.09.2023
- 11 Date of Sample Analysis : 25.09.2023 & 28.09.2023
- 12 Date of Sample Analysis completion : 26.09.2023 & 29.09.2023
- 13 Report Issued Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000001083F**

Sl. No	Stack Attached to	Date of Monitoring	Sample Code	Fuel Used	Ta °C	TS °C	V m/Sec	Height (m)	Diameter (m)	PM mg/Nm ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
RMHS											
3	Screen, Coal Crusher(CPU)	28.09.2023	3082	-	31	38	5.01	3.0	0.30	31.53	50
4	Main Crusher	25.09.2023	3057	-	31	35	4.52	35	0.50	13.08	50

Sl. No	Beneficiation Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
3	Screen, Coal Crusher(CPU)	32449	30966	-
4	Main Crusher	3195	3083	-

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

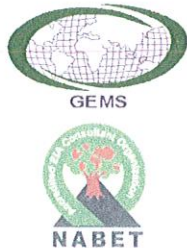
Pooja R
Analysed By
T.R.Pooja
Chemist

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



Note:

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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/ **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 : **SEPTEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 16.09.2023 & 19.09.2023
- 11 Date of Sample Analysis : 16.09.2023 & 19.09.2023
- 12 Date of Sample Analysis completion : 17.09.2023 & 20.09.2023
- 13 Report Issued Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000001036F**

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
Pellet Plant-I											
5	AGB Main Bag Filter	16.09.2023	2904	---	31	35	4.42	6.5	0.60	23.58	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	16.09.2023	2905	---	31	36	4.72	3.0	0.30	33.74	50
7	Bentonite Powder bin top bag filter	19.09.2023	2923	---	31	36	4.75	3.0	0.30	28.65	50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	19.09.2023	2924	---	31	41	4.88	7.0	0.50	31.92	50

Sl. No	Pellet Plant	Gas flow rate at Stack Condition m ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
5	AGB Main Bag Filter	4500	4335	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1201	1153	-
7	Bentonite Powder bin top bag filter	1209	1162	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3262	3262	-

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

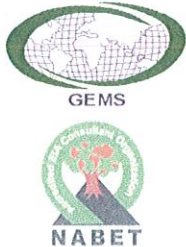
T.R. Pooja
Analysed By
T.R. Pooja
Chemist

T.R. Pooja
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

ANNEXURE-22
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **SEPTEMBER - 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 28.09.2023
- 11 Date of Sample Analysis : 28.09.2023
- 12 Date of Sample Analysis completion : 29.09.2023
- 13 Report Issued Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000001084F**

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 ³	KSPCB Std mg/Nm ³
Chimneys attached to Bag Filter (De dusting Units)											
2 X 100 TPD Sponge Iron Kiln 1 & 2											
10	Cooler-1 Discharge & Blending Chute	28.09.2023	3083	---	29	35	4.75	30	1.20	27.21	50
11	Cooler-2 Discharge	-	-	---	-	-	-	30	1.20	-	50
12	Intermediate Bin & Blending	28.09.2023	3084	---	30	36	4.67	30	1.20	27.86	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 ³ /hr	Gas flow rate at NTP Nm ³ /hr	KSPCB Std
10	Cooler-1 Discharge & Blending Chute	1848	17711	-
11	Cooler-2 Discharge	19505	18616	-
12	Intermediate Bin & Blending	18854	18208	-
13	Product House	-	-	-

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

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

TUCR
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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TC-5323

ANNEXURE-23
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Noise Level Monitoring
Particulars of Sample Collected : Lutron: SL- 4023SD
Sl. No: Q679952
Instrument Details : Calibration Date: 02.11.2022
Calibration Due Date: 01.11.2023
Month : **SEPTEMBER - 2023**
Report Issue Date : **06.10.2023**
Method Adopted : IS 9989-1981 Reaffirmed 2014
Report No : **ULR-TC532323000000882F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	01.09.2023	51.0	58.0	75	40.2	54.9	70
2	Near ATM	01.09.2023	48.0	53.5	75	39.4	50.4	70
3	Transit House	02.09.2023	53.4	58.2	75	41.6	48.9	70
4	CAAQMS Station	02.09.2023	49.0	52.0	75	40.2	46.1	70
5	Gunda Road	04.09.2023	50.5	54.6	75	42.1	48.9	70
6	Gunda Railway Station	04.09.2023	60.1	68.5	75	48.6	54.2	70
7	Bagging Shed	05.09.2023	53.2	59.6	75	50.8	53.6	70
8	Railway Siding	05.09.2023	51.2	63.4	75	49.4	61.8	70
9	4th Gate	06.09.2023	51.4	56.6	75	49.6	52.6	70
10	Bricks Plant	06.09.2023	55.2	63.5	75	44.3	49.2	70
11	Kempuhalla (Wagon Tippler)	07.09.2023	52.8	58.2	75	46.8	55.4	70
12	Danapura Bridge	07.09.2023	50.2	56.2	75	48.7	52.4	70
13	2nd Gate	08.09.2023	48.6	55.0	75	42.8	49.2	70
14	Project Store	08.09.2023	42.5	51.5	75	40.8	46.8	70
15	Dispatch (Truck Parking Area)	08.09.2023	59.8	67.8	75	57.2	62.4	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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TC-5323

ANNEXURE-24
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/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: 02.11.2022
 Calibration Due Date: 01.11.2023
 Month : **SEPTEMBER - 2023**
 Report Issue Date : **06.10.2023**
 Method Adopted : IS 9989-1981 Reaffirmed 2014
 Report No : **ULR-TC532323000001038F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	16.09.2023	49.8	59.4	75	41.6	56.2	70
2	Near ATM	16.09.2023	47.6	54.2	75	40.8	53.1	70
3	Transit House	19.09.2023	51.2	56.1	75	40.2	50.3	70
4	CAAQMS Station	19.09.2023	48.4	53.4	75	41.6	49.4	70
5	Gunda Road	20.09.2023	51.6	55.9	75	43.8	50.1	70
6	Gunda Railway Station	20.09.2023	61.8	66.8	75	51.2	56.8	70
7	Bagging Shed	21.09.2023	51.9	61.4	75	49.8	58.1	70
8	Railway Siding	21.09.2023	53.4	66.9	75	50.1	63.6	70
9	4th Gate	22.09.2023	50.9	58.2	75	48.4	54.2	70
10	Bricks Plant	22.09.2023	54.6	66.4	75	46.4	50.6	70
11	Kempuhalla (Wagon Tippler)	23.09.2023	53.4	60.8	75	48.2	56.9	70
12	Danapura Bridge	23.09.2023	51.8	57.9	75	49.8	54.2	70
13	2nd Gate	25.09.2023	47.4	56.4	75	45.4	51.4	70
14	Project Store	25.09.2023	42.6	54.3	75	40.6	51.0	70
15	Dispatch (Truck Parking Area)	25.09.2023	58.6	68.2	75	55.9	64.6	70

INFERENCE

As per CPCB Standards,

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

[Signature]
 Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



Note:

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TC-5323

ANNEXURE-25
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Noise Level Monitoring
Particulars of Sample Collected : Lutron: SL- 4023SD
Sl. No: Q679952
Instrument Details : Calibration Date: 02.11.2022
Calibration Due Date: 01.11.2023
Month : SEPTEMBER - 2023
Report Issue Date : 06.10.2023
Method Adopted : IS 9989-1981 Reaffirmed 2014
Sample Code : 2645,2666,2691,2698,2711,&2744
Report No : ULR-TC532323000001058F

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	05.09.2023	48.6	54.3	51.91	55	37.6	44.1	40.19	45
2	Mariyammana Halli	08.09.2023	49.1	53.6	51.60		38.4	43.2	40.16	
3	Hanumana Halli	07.09.2023	48.8	54.2	52.84		40.1	43.2	42.19	
4	Galemmannagudi	06.09.2023	49.0	54.4	52.43		40.5	43.8	41.59	
5	Gunda Village	09.09.2023	48.5	54.6	51.73		35.8	40.2	38.49	
6	Gunda Tanda Village	11.09.2023	45.4	53.5	51.99		36.9	42.8	39.84	

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

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TC-5323

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

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2780
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000971F

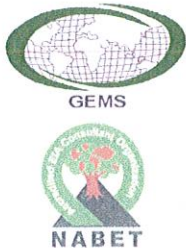
Results

Sl. No.	Parameters	Protocol	Unit	Danapur Village (GW1)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.10	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	2300	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1426	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	174.58	200	400
7.	Phosphorus as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	241.38	-	-
9.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	110.16	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	48.6	30	100
12.	Total Hardness as CaCO ₃	APHA 23rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	470.0	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	429.05	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.72	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	16.65	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	447.2	200	600

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ANNEXURE-26

17.	Acidity as CaCO ₃	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	0.10	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	0.338	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.258	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

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

INFERENCE

As per Standards IS: 10500:2012

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

Analysed By
Priyanka B M
Jr.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.
2. Water Samples will be destroyed after 15Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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ANNEXURE-26
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Ground Water
9	Sample Code	: 2780
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

Results

Sl. No	Parameters	Protocol	Unit	Danapur Village (GW1)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

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

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2782
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000973F

Results

Sl. No	Parameters	Protocol	Unit	Hanumanahalli Village (GW2)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.36	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2700	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1728	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.4	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	138.0	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	368.42	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	110.36	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	64.68	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	540.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl-	mg/L	411.2	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.78	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	15.73	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	504.8	200	600

Note:

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TC-5323

ANNEXURE-27

17.	Acidity as CaCO ₃	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	0.15	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	0.238	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.128	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

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

INFERENCE

As per Standards IS: 10500:2012

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

Priyanka B M
Analysed By
Priyanka B M
Jr.Chemist

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



Note:

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

Analysis Report of Water Quality Data

1	Name of the Industry	:	BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	:	WO/ADMIN/FY24/RO18
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Grab Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample Type	:	Ground Water
9	Sample Code	:	2782
10	Date of Sampling	:	09.09.2023
11	Sample Received	:	09.09.2023
12	Date of Analysis	:	09.09.2023
13	Date of Analysis Completion	:	17.09.2023
14	Report Issue Date	:	06.10.2023

Results

Sl. No	Parameters	Protocol	Unit	Hanumanahalli Village (GW2)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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TC-5323

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

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2783
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000974F

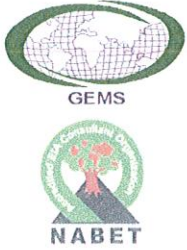
Results

Sl. No	Parameters	Protocol	Unit	Galemmana Gudi Village (GW3)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.39	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	2100	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1344	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	100.24	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	190.20	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	93.02	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	44.22	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	410.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	447.91	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.75	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	17.85	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	407.68	200	600

Note:

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TC-5323

ANNEXURE-28

17.	Acidity as CaCO ₃	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	0.328	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.247	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. Ab-Absent.

INFERENCE

As per Standards IS: 10500:2012

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

Priyanka B M
Analysed By
Priyanka B M
Jr.Chemist

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



Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-28
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2783
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

Results

Sl. No	Parameters	Protocol	Unit	Galemmana Gudi Village (GW3)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

ANNEXURE-29
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

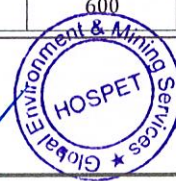
1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Ground Water
9	Sample Code	: 2781
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000972F

Results

Sl. No	Parameters	Protocol	Unit	Mariyammana Halli Village (GW4)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.09	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	3000	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1920	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	183.14	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	364.48	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	130.56	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	61.23	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	572.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl-	mg/L	457.34	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.81	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	22.35	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	470.08	200	600

Note:

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17.	Acidity as CaCO ₃	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	0.251	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.238	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: GW4: MariyammanaHalli Village. NR-No relaxation. Ab-Absent.

INFERENCE

As per Standards IS: 10500:2012

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

Priyanka B M
Analysed By
Priyanka B M
Jr.Chemist

K. Ramakrishna Reddy
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.
3. This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not use any advertising media without special permission in writing.
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ANNEXURE-29
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2781
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

Results

Sl. No	Parameters	Protocol	Unit	Mariyammana Halli Village (GW4)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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ANNEXURE-30
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2784
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000975F

Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.45	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	670	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	428	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.3	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	7.15	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	43.24	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	47.32	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	26.24	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	224.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	97.12	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.68	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	7.75	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	222.56	200	600

Note:

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ANNEXURE-30

17.	Acidity as CaCO ₃	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	0.238	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.118	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

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

INFERENCE

As per Standards IS: 10500:2012

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

Priyanka B M

Analysed By
Priyanka B M
Jr.Chemist

K. Ramakrishna Reddy

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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ANNEXURE-30
GEMS-LD/TF/23/01


Analysis Report of Water Quality Data


1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 2784
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

Results

Sl. No	Parameters	Protocol	Unit	Gunda Thanda (GW5)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Color	APHA-23RD Edition-2120 C (Pg No. 2 -7 to 2-8)	Hazen	<5	5	15
2.	Cadmium as Cd	APHA-23RD Edition-3111 -B (Pg No.3 -20 to 3-21)	mg/L	<0.001	0.003	NR
3.	Total Coli form count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-
4.	Escherichia coli count	IS : 1622 : 1981	1 CFU/ 100 ml	Ab	Shall not be detectable in any 100ml sample	-

Note: Ab: Absent, NR: No Relaxation


Analysed By
Priyanka B M
Jr.Chemist


Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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ANNEXURE-31
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Ground Water
9	Sample Code	: 2785
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000976F

Results

Sl. No	Parameters	Protocol	Unit	Gunda Village (GW6)	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.11	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	1440	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	892	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.1	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	76.91	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	122.87	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	76.70	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	44.71	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	372.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	181.05	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.70	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	10.35	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	364.0	200	600

Note:

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TC-5323

ANNEXURE-31


17.	Acidity as CaCO ₃	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	0.16	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	0.178	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.074	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. **Ab**-Absent.

INFERENCE

As per Standards IS: 10500:2012

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


Analysed By
 Priyanka B M
 Jr.Chemist


Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



Note:

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ANNEXURE-31
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Ground Water
9	Sample Code	: 2785
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

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
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Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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TC-5323

ANNEXURE-32
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: RO Drinking Water
9	Sample Code	: 2786
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023
15	Report Number	: ULR-TC532323000000977F

Results

Sl. No	Parameters	Protocol	Unit	RO Drinking Water	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.36	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	47	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	30	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.0	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	<1.0	-	-
6.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	3.63	200	400
7.	Phosphorus as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	0.0	-	-
9.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
10.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	3.3	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	1.94	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	16.0	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	6.60	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.12	1	1.5
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	1.35	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	12.48	200	600

Note:

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17.	Acidity as CaCO ₃	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	0.04	0.30	NR
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR
26.	Mercury as Hg	APHA 23rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	Nil	0.001	NR


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

INFERENCE

As per Standards IS: 10500:2012

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


Analysed By
 Priyanka B M
 Jr.Chemist


Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



Note:

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ANNEXURE-32
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Grab Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: RO Drinking Water
9	Sample Code	: 2786
10	Date of Sampling	: 09.09.2023
11	Sample Received	: 09.09.2023
12	Date of Analysis	: 09.09.2023
13	Date of Analysis Completion	: 17.09.2023
14	Report Issue Date	: 06.10.2023

Results

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

Note: Ab: Absent, NR: No Relaxation,

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-33
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services
- 4 Particulars of sample collected : Composite Sampling
- 5 Sampling Procedure : GEMS-LD/SOP/32
- 6 Discipline : Chemical
- 7 Group : Pollution & Environment
- 8 Sample Type : **Sewage Treatment Plant (Outlet)**
- 9 Date of Sampling : 09.09.2023
- 10 Sample Received : 09.09.2023
- 11 Date of Analysis : 09.09.2023
- 12 Date of Analysis Completion : 17.09.2023
- 13 Report Issue Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000000985F**

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	2794	2795	2796	
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.44	7.18	7.64	6.5 to 8.5
2.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	10	12	2.5	<20
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	8.0	8.0	2.0	<10
4.	Chemical Oxygen Demand as COD	APHA 23 rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	39.6	28.4	21.20	<50
5.	Oil & Grease	APHA 23 rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	1.0	4.0	4.0	10

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

STP 45 KLD – Near Fortivia

STP-1 90 KLD –Near ISP Area

STP-2 90 KLD –Near Gunda Guest House

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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ANNEXURE-33
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Composite Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Sewage Treatment Plant (Outlet)
9	Date of Sampling	: 09.09.2023
10	Sample Received	: 09.09.2023
11	Date of Analysis	: 09.09.2023
12	Date of Analysis Completion	: 17.09.2023
13	Report Issue Date	: 06.10.2023

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	2794	2795	2796	
1.	Color	APHA 23 RD Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	4	6	4	-
2.	Odour	IS: 3025 (PART 5)- 1983, RA-2012, True Odour	-	Agree able	Agree able	Agree able	-
3.	Cyanides (as CN)	APHA 23 RD Edition 4500 CN (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	BDL	-
4.	Phenolic Compounds (as C ₆ H ₅ OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	BDL	-
5.	Chromium (as Cr ⁶⁺)	APHA-23 RD 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	1.52	0.92	1.12	-

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

STP 45 KLD – Near Fortivia

STP-1 90 KLD –Near ISP Area

STP-2 90 KLD –Near Gunda Guest House

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
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Technical Manager



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TC-5323

ANNEXURE-34
GEMS-LD/TF/23/01

Analysis Report of Water Quality Data

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/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 : **Waste Water**
- 9 Date of Sampling : 09.09.2023
- 10 Sample Received : 09.09.2023
- 11 Date of Analysis : 09.09.2023
- 12 Date of Analysis Completion : 17.09.2023
- 13 Report Issue Date : **06.10.2023**
- 14 Report Number : **ULR-TC532323000000978F**

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		
				2787	2788	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.97	7.71	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	1.10	1.3	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	42.5	20.6	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	2.0	2.1	10

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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ANNEXURE-35
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/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	: 09.09.2023
10	Sample Received	: 09.09.2023
11	Date of Analysis	: 09.09.2023
12	Date of Analysis Completion	: 17.09.2023
13	Report Issue Date	: 06.10.2023

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
Sample code				2789	2790	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.61	7.44	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	2.0	3.0
3.	Fluorides as F	APHA 23 RD Edition 4500F- D (Pg. No.4-90 to 4-91)	mg/L	0.44	0.35	1.5
4.	Arsenic as As	APHA-23 RD Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	<0.1	<0.1	0.2
5.	Dissolved Oxygen	APHA 23 RD Edition 4500 C (Pg. No.4-146)	mg/L	6.2	6.4	>5.0
6.	Color	APHA 23 RD Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	4	4	300
7.	Cyanides (as CN)	APHA 23 RD Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
8.	Phenolic Compounds (as C ₆ H ₅ OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	0.005
9.	Chromium (as Cr ⁶⁺)	APHA-23 RD Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	1.0
10.	Anionic detergents (as MBAS)	APHA 23 RD Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
11.	Total Coliform Organisms					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	-

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
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ANNEXURE-36
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Composite Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Surface Water
9	Date of Sampling	: 09.09.2023
10	Sample Received	: 09.09.2023
11	Date of Analysis	: 09.09.2023
12	Date of Analysis Completion	: 17.09.2023
13	Report Issue Date	: 06.10.2023

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
		Sample code		2791	2792	
1.	pH	APHA 23 rd Edition 2017 4500 H ⁺ B (Pg. No.4-95 to 4-99)	-	7.57	7.56	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	2.0	3.0
3.	Fluorides as F	APHA 23 rd Edition 4500F ⁻ D (Pg. No.4-90 to 4-91)	mg/L	0.45	0.32	1.5
4.	Arsenic as As	APHA-23 rd Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	<0.1	<0.1	0.2
5.	Dissolved Oxygen	APHA 23 rd Edition 4500 C (Pg. No.4-146)	mg/L	5.0	5.5	>5.0
6.	Color	APHA 23 rd Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	6	300
7.	Cyanides (as CN)	APHA 23 rd Edition 4500 CN ⁻ (Pg. No.4-45 to 4-46)	mg/L	BDL	BDL	0.05
8.	Phenolic Compounds (as C ₆ H ₅ OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	BDL	0.005
9.	Chromium (as Cr ⁶⁺)	APHA-23 rd Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	<0.001	1.0
10.	Anionic detergents (as MBAS)	APHA 23 rd Edition 5540 C (Pg. No.5-55 to 5-57)	mg/L	BDL	BDL	1.0
11.	Total Coliform Organisms,					
	Total Coli forms	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	500
	Escherichia coli or E. coli	IS : 15185 : 2016	MPN/ 100 ml	Absent	Absent	-

Note: BDL-Below detectable Limit

INFERENCE: The measured values are within the Limit.

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
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ANNEXURE-37
GEMS-LD/TF/23/01

Analysis Report of Surface Water Quality Data

1	Name of the Industry	: BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
2	Customer Reference	: WO/ADMIN/FY24/RO18
3	Sample collected by	: GLOBAL Environment & Mining Services
4	Particulars of sample collected	: Composite Sampling
5	Sampling Procedure	: GEMS-LD/SOP/32
6	Discipline	: Chemical
7	Group	: Pollution & Environment
8	Sample Type	: Surface Water
9	Date of Sampling	: 09.09.2023
10	Sample Received	: 09.09.2023
11	Date of Analysis	: 09.09.2023
12	Date of Analysis Completion	: 17.09.2023
13	Report Issue Date	: 06.10.2023

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
				Sample Code	
				2793	
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.38	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 rd Edition 4500F- D (Pg. No.4-90 to 4-91)	mg/L	0.16	1.5
4.	Arsenic as As	APHA-23 rd Edition-3114 -B (Pg. No.3 -36 to 3-40)	mg/L	<0.1	0.2
5.	Dissolved Oxygen	APHA 23 rd Edition 4500 C (Pg. No.4-146)	mg/L	6.6	>5.0
6.	Color	APHA 23 rd Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	5	300
7.	Cyanides (as CN)	APHA 23 rd Edition 4500 CN- (Pg. No.4-45 to 4-46)	mg/L	BDL	0.05
8.	Phenolic Compounds (as C ₆ H ₅ OH)	IS:3025 (part 43)-1992, RA-2014, Chloroform extraction method	mg/L	BDL	0.005
9.	Chromium (as Cr ⁶⁺)	APHA-23 rd Edition-3500 Cr B (Pg. No.3-71 to 3-72)	mg/L	<0.001	1.0
10.	Anionic detergents (as MBAS)	APHA 23 rd 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
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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