

BMM ISPAT LTD



ENVIRONMENTAL MONITORING REPORT



at

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

Stage – I

JUNE - 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: 07.07.2023


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 **JUNE-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 2.5µm) PM_{2.5}.

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

Purpose

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

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

Principle of the method

Air is drawn through a size-selective inlet and through a 20.3X25.4 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 sulphonate. 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 2 μ l of sample from the amber vial using standard gas tight syringe and inject in the Capillary GC-FID instrument for analysis. Record the resulting concentration of each PAH compound including B(a)P. A 10ng/ μ l concentration B(a)P or other PAH standards are to be injected in GC/FID instrument with every batch of samples. As a control Internal Standard of 10 ng/ μ l conc. is added to each sample prior to the analysis in case of internal calibration is used.

2.2.8 Benzene

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

Principle of the Method

IS 5182 (Part 11): 2006, The charcoal tubes are available in different sizes and contain varying amount of activated charcoal. The ambient air is sucked through the tube using a low flow sampler used for collection of BTX sample in a way that results in an enrichment of the relevant substances in the activated charcoal. Desorption of the adsorbed benzene is done using carbon disulphide (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 μ m or below and with a stationary phase film thickness less than 1.5 μ m as follows or equivalent may be recommended.

Sampling

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

Analytical Procedure

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

2.2.9Carbon 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 32 Samples Collected from Vayubodhan Stack sampler VSS 1 stack monitoring kit was used for drawing the flue gas. Sulphur dioxide and oxides of nitrogen in the flue gas were sampled by bubbling flue gas in 3% H₂O₂ and 0.1N NaOH solution respectively and the analysis of the pollutants were done as per the Indian standard procedures prescribed by CPCB/BIS. Stack emission level was monitored as per the statutory requirement on twice in a month.

Stack Emissions Monitoring Methodology

Pre-Sampling Activities

Weigh the properly conditioned thimble/filter and place it into the clean, air tight Container. Designate appropriate label or ID No. to each thimble/filter container. Particulate matter emission of "Stack Monitoring – Material and Methodology for 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 68.27, 23.34, 10.28 & 13.62 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 67.50, 19.20, 9.01 & 12.54 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 66.45, 19.62, 8.59 & 11.91 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 65.67, 16.65, 7.76 & 10.31 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 53.66, 15.48, 7.17 & 10.62 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 53.19, 15.06, 7.31 & 10.88 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 210.10 $\mu\text{g}/\text{m}^3$, maximum value 1736.12 $\mu\text{g}/\text{m}^3$, and average value 1059.84 $\mu\text{g}/\text{m}^3$. 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 5.01 mg/Nm^3 , Maximum Value 38.00 mg/Nm^3 & Average Value 23.87 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 42.2 to 70.2 dB (A) and 39.8 to 67.2 dB (A). The noise level status is given in **Annexure-23 to Annexure-25**.

3.1 Water Sample Collected at 18 locations in side plant and surrounding nearest villages and nearest surface water Sample Collected every Month. The Water Analysis Test Report is given in **Annexure-26 to Annexure-37**.

3.2 CONCLUSION

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



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TC-5323

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler, FPS Sampler
Month : JUNE- 2023
Location : A1-Danapur Village
Duration of Monitoring : 24 Hour
Report Issued Date : 07.07.2023
Report Number : ULR-TC532323000000290F

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
05.06.2023	06.06.2023	971	72.80	100	25.09	60	9.59	80	13.89	80
06.06.2023	07.06.2023	996	68.50		30.78		7.91		10.12	
12.06.2023	13.06.2023	1086	66.90		19.15		11.17		15.38	
13.06.2023	14.06.2023	1117	70.71		26.10		10.33		11.60	
19.06.2023	20.06.2023	1280	65.96		17.55		9.07		16.32	
20.06.2023	21.06.2023	1317	69.61		21.10		9.49		11.06	
26.06.2023	27.06.2023	1428	64.21		22.45		11.49		17.67	
27.06.2023	28.06.2023	1453	67.48		24.48		13.18		12.95	
Average			68.27		23.34		10.28		13.62	

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.

Linga
Analysed By
B P Lingaraja
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 15 Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
- This report is not to be reproduced wholly or in part & cannot be used as evidence in the Court of law & should not use any advertising media without special permission in writing.
- Total liability of our laboratory is limited to the invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey



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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/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 : JUNE- 2023
 Location : A1-Danapur Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.06.2023	971	0.11	4.0
2	06.06.2023	996	0.15	
3	12.06.2023	1086	0.10	
4	13.06.2023	1117	0.13	
5	19.06.2023	1280	0.17	
6	20.06.2023	1317	0.12	
7	26.06.2023	1428	0.11	
8	27.06.2023	1453	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	09.07.2022
5	Calibration Due Date	08.07.2023

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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Linga
 Analysed By
 B P Lingaraja
 Chemist

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



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



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TC-5323

ANNEXURE-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 : JUNE- 2023
Location : A2-Mariyammanahalli Village
Duration of Monitoring : 24 Hour
Report Issued Date : 07.07.2023
Report Number : ULR-TC532323000000291F

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
05.06.2023	06.06.2023	972	66.70	100	18.05	60	9.70	80	12.54	80
06.06.2023	07.06.2023	997	65.09		16.55		6.33		9.58	
12.06.2023	13.06.2023	1087	69.52		18.51		10.54		12.41	
13.06.2023	14.06.2023	1118	71.76		20.77		8.01		14.16	
19.06.2023	20.06.2023	1281	67.61		16.38		10.44		11.60	
20.06.2023	21.06.2023	1318	70.46		15.74		7.17		14.03	
26.06.2023	27.06.2023	1429	62.89		27.23		11.17		15.38	
27.06.2023	28.06.2023	1454	65.98		20.39		8.75		10.66	
Average			67.50		19.20		9.01		12.54	

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.

B.P. Lingaraja
Analysed By
B P Lingaraja
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 15 Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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- Total liability of our laboratory is limited to the Invoice amount. Any dispute arising out of this report is subject to Hosapete jurisdiction only.
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Website : www.globalmining.in

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/R018
 Sample collected by : Global Environment & Mining Services
 Discipline : Chemical
 Group : Atmospheric Pollution
 Sample Type : Ambient Air Quality Monitoring
 Particulars of Sample Collected : CO Analyser
 Month : JUNE- 2023
 Location : A2-Mariyammanahalli Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.06.2023	972	0.11	4.0
2	06.06.2023	997	0.13	
3	12.06.2023	1087	0.18	
4	13.06.2023	1118	0.20	
5	19.06.2023	1281	0.22	
6	20.06.2023	1318	0.14	
7	26.06.2023	1429	0.10	
8	27.06.2023	1454	0.09	

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

ND - Not Detected

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

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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Linga
 Analysed By
 B P Lingaraja
 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/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 : JUNE- 2023
Location : A3-Hanumanahalli Village
Duration of Monitoring : 24 Hour
Report Issued Date : 07.07.2023
Report Number : ULR-TC532323000000292F

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
05.06.2023	06.06.2023	973	71.26	100	18.48	60	8.75	80	13.35	80
06.06.2023	07.06.2023	998	69.40		21.34		7.17		9.85	
12.06.2023	13.06.2023	1088	70.73		16.93		11.28		14.30	
13.06.2023	14.06.2023	1119	59.38		27.91		9.07		12.95	
19.06.2023	20.06.2023	1282	78.10		15.78		6.43		9.98	
20.06.2023	21.06.2023	1319	63.89		18.97		8.54		11.20	
26.06.2023	27.06.2023	1430	69.20		19.11		7.91		11.26	
27.06.2023	28.06.2023	1455	49.63		18.41		9.59		12.41	
Average			66.45		19.62		8.59		11.91	

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.

Linga
Analysed By
B P Lingaraja
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 15 Days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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ANNEXURE-03
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/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 : JUNE- 2023
 Location : A3-Hanumanahalli Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	05.06.2023	973	0.23	4.0
2	06.06.2023	998	0.16	
3	12.06.2023	1088	0.21	
4	13.06.2023	1119	0.18	
5	19.06.2023	1282	0.11	
6	20.06.2023	1319	0.16	
7	26.06.2023	1430	0.13	
8	27.06.2023	1455	0.14	

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

ND - Not Detected

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

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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Lingga
 Analysed By
 B P Lingaraja
 Chemist

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

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

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler, FPS Sampler
Month : JUNE- 2023
Location : A4-Galemmanagudi Village
Duration of Monitoring : 24 Hour
Report Issue Date : 07.07.2023
Report Number : ULR-TC532323000000306F

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
07.06.2023	08.06.2023	1017	63.22	100	18.51	60	7.91	80	12.27	80
08.06.2023	09.06.2023	1034	59.59		19.60		9.59		9.85	
14.06.2023	15.06.2023	1142	69.11		25.29		8.01		11.06	
15.06.2023	16.06.2023	1159	74.52		12.18		7.06		8.63	
21.06.2023	22.06.2023	1369	69.87		14.03		6.22		9.98	
22.06.2023	23.06.2023	1385	65.25		11.13		8.86		9.58	
28.06.2023	29.06.2023	1476	57.76		12.83		8.22		9.04	
29.06.2023	30.06.2023	1497	66.05		19.67		6.22		12.07	
Average			65.67		16.65		7.76		10.31	

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.

Rugga
Analysed By
B P Lingaraja
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-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 : JUNE- 2023
 Location : A4-Galemmanagudi Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.06.2023	1017	0.22	4.0
2	08.06.2023	1034	0.10	
3	14.06.2023	1142	0.18	
4	15.06.2023	1159	0.23	
5	21.06.2023	1369	0.11	
6	22.06.2023	1385	0.16	
7	28.06.2023	1476	0.09	
8	29.06.2023	1497	0.20	

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

ND - Not Detected

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

INFERENCE	As per NAAQMS Standards (2009), Report Status: - Measured Values for the above parameters are within the limit
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Linga
 Analysed By
 B P Lingaraja
 Chemist

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



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Website : www.globalmining.in



TC-5323

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler, FPS Sampler
Month : JUNE- 2023
Location : A5-Gunda Village
Duration of Monitoring : 24 Hour
Report Issue Date : 07.07.2023
Report Number : ULR-TC532323000000307F

RESULTS

Parameters			PM10 [µg/m ³]		PM2.5 [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 Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.06.2023	08.06.2023	1018	49.32	100	17.54	60	9.91	80	11.73	80
08.06.2023	09.06.2023	1035	51.16		17.90		6.33		10.12	
14.06.2023	15.06.2023	1143	56.77		13.79		7.48		12.54	
15.06.2023	16.06.2023	1160	53.13		12.82		5.38		9.17	
21.06.2023	22.06.2023	1370	54.30		14.57		6.54		10.93	
22.06.2023	23.06.2023	1386	51.07		12.81		5.90		9.98	
28.06.2023	29.06.2023	1477	53.93		19.64		5.38		8.90	
29.06.2023	30.06.2023	1498	59.59		14.77		10.44		11.60	
Average			53.66		15.48		7.17		10.62	

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.

Linga
Analysed By
B P Lingaraja
Chemist

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



Note:

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/R018
 Sample collected by : Global Environment & Mining Services
 Discipline : Chemical
 Group : Atmospheric Pollution
 Sample Type : Ambient Air Quality Monitoring
 Particulars of Sample Collected : CO Analyser
 Month : JUNE- 2023
 Location : A5-Gunda Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.06.2023	1018	<0.01	4.0
2	08.06.2023	1035	<0.01	
3	14.06.2023	1143	0.04	
4	15.06.2023	1160	<0.01	
5	21.06.2023	1370	<0.01	
6	22.06.2023	1386	0.07	
7	28.06.2023	1477	<0.01	
8	29.06.2023	1498	<0.01	

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

ND - Not Detected

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

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

Linga
 Analysed By
 B P Lingaraja
 Chemist

RUP
 Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



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TC-5323

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

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
Customer Reference : WO/ADMIN/FY24/R018
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler, FPS Sampler
Month : JUNE- 2023
Location : A6-Gunda Tanda Village
Duration of Monitoring : 24 Hour
Report Issue Date : 07.07.2023
Report Number : ULR-TC532323000000308F

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 Received Sample	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
07.06.2023	08.06.2023	1019	53.50	100	16.34	60	8.12	80	11.60	80
08.06.2023	09.06.2023	1036	55.22		17.22		7.27		10.52	
14.06.2023	15.06.2023	1144	50.23		14.67		8.75		13.08	
15.06.2023	16.06.2023	1161	52.26		10.63		4.95		8.77	
21.06.2023	22.06.2023	1371	57.80		15.74		8.22		12.27	
22.06.2023	23.06.2023	1387	59.30		13.07		5.27		9.04	
28.06.2023	29.06.2023	1478	47.94		17.39		7.27		11.06	
29.06.2023	30.06.2023	1499	49.26		15.40		8.64		10.71	
Average			53.19		15.06		7.31		10.88	

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.

Linga
Analysed By
B P Lingaraja
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.
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ANNEXURE-06
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
 Customer Reference : WO/ADMIN/FY24/R018
 Sample collected by : Global Environment & Mining Services
 Discipline : Chemical
 Group : Atmospheric Pollution
 Sample Type : Ambient Air Quality Monitoring
 Particulars of Sample Collected : CO Analyser
 Month : JUNE- 2023
 Location : A6-Gunda Tanda Village
 Duration of Monitoring : 1 Hour
 Report Issued Date : 07.07.2023

RESULTS

Sl. No.	Date of Sampling	Sample Code	CO (1 Hour) [mg/m ³]	Standard
1	07.06.2023	1019	<0.01	4.0
2	08.06.2023	1036	0.09	
3	14.06.2023	1144	<0.01	
4	15.06.2023	1161	<0.01	
5	21.06.2023	1371	<0.01	
6	22.06.2023	1387	<0.01	
7	28.06.2023	1478	<0.01	
8	29.06.2023	1499	<0.01	

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

ND - Not Detected

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

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

B P Lingaraja
 Analysed By
 B P Lingaraja
 Chemist

K. Ramakrishna Reddy
 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	:	JUNE- 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	:	07.07.2023
10	Report Number	:	GEMS/BMM/FM/2023-24/317

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	1043	08.06.2023	09.06.2023	727.37	2000
2.	Main Crusher	1041	08.06.2023	09.06.2023	1071.77	2000
3.	Iron Ore Screen	1042	08.06.2023	09.06.2023	1609.62	2000
II. Pellet Plant-I						
4.	Near Pellet Plant	1057	09.06.2023	10.06.2023	751.21	2000
5.	Annual Cooler Pellet Discharge bin	1058	09.06.2023	10.06.2023	832.64	2000
6.	Pellet Stock Yard	1059	09.06.2023	10.06.2023	1732.62	2000
III. Sponge Iron Division-1 (kiln 1 & 2)						
7.	Control Room SID-1	1091	12.06.2023	13.06.2023	1648.63	2000
8.	Near Product bin	1092	12.06.2023	13.06.2023	1312.02	2000
9.	Coal Feeding Area	1093	12.06.2023	13.06.2023	656.55	2000
IV. Induction Furnace & Rolling Mill – 1						
10.	IF Office	1070	10.06.2023	11.06.2023	753.54	2000
11.	TMT Stock Yard	1071	10.06.2023	11.06.2023	1041.61	2000
12.	RML Gasifier	1072	10.06.2023	11.06.2023	1654.78	2000
V. Power Plant 25 MW-1						
13.	25 MW ESP	1094	12.06.2023	13.06.2023	561.40	2000
14.	25 MW ACC	1120	13.06.2023	14.06.2023	363.97	2000
VI. Site Services						
15.	PGP- coal handling system	1060	09.06.2023	10.06.2023	787.29	2000
16.	IF Slag Crusher	1073	10.06.2023	11.06.2023	666.22	2000
17.	Main Gate	1121	13.06.2023	14.06.2023	210.10	2000
18.	Fly ash Dump	1026	07.06.2023	08.06.2023	325.62	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

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Analysed By
B P Lingaraja
Chemist

Ramkrishna
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	:	JUNE- 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	:	07.07.2023
10	Report Number	:	GEMS/BMM/FM/2023-24/456

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	1410	23.06.2023	24.06.2023	436.91	2000
2.	Main Crusher	1408	23.06.2023	24.06.2023	1733.79	2000
3.	Iron Ore Screen	1409	23.06.2023	24.06.2023	959.64	2000
II. Pellet Plant-I						
4.	Near Pellet Plant	1411	23.06.2023	24.06.2023	1227.29	2000
5.	Annual Cooler Pellet Discharge bin	1415	24.06.2023	25.06.2023	1621.83	2000
6.	Pellet Stock Yard	1416	24.06.2023	25.06.2023	1547.56	2000
III. Sponge Iron Division-1(kiln 1 & 2)						
7.	Control Room SID-I	1435	26.06.2023	27.06.2023	1048.11	2000
8.	Near Product bin	1436	26.06.2023	27.06.2023	1423.59	2000
9.	Coal Feeding Area	1438	26.06.2023	27.06.2023	715.08	2000
IV. Induction Furnace & Rolling Mill – 1						
10.	IF Office	1417	24.06.2023	25.06.2023	1010.14	2000
11.	TMT Stock Yard	1418	24.06.2023	25.06.2023	1001.21	2000
12.	RML Gasifier	1434	26.06.2023	27.06.2023	1395.67	2000
V. Power Plant 25 MW-1						
13.	25 MW ESP	1460	27.06.2023	28.06.2023	706.87	2000
14.	25 MW ACC	1461	27.06.2023	28.06.2023	855.22	2000
VI. Site Services						
15.	PGP- Coal handling system	1419	24.06.2023	25.06.2023	1327.61	2000
16.	IF Slag Crusher	1436	26.06.2023	27.06.2023	964.71	2000
17.	Main Gate	1462	27.06.2023	28.06.2023	258.54	2000
18.	Fly ash Dump	1395	22.06.2023	23.06.2023	275.69	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

Linga
Analysed By
B P Lingaraja
Chemist

K. Ramakrishna Reddy
Authorised Signatory
K. Ramakrishna Reddy
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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 : **JUNE- 2023**
- 11 Date of Sample Received : 15.06.2023 & 17.06.2023
- 12 Date of Sample Analysis : 15.06.2023 & 19.06.2023
- 13 Date of Sample Analysis completion : 16.06.2023 & 20.06.2023
- 14 Report Issued Date : **07.07.2023**
- 15 Report Number : **ULR-TC532323000000364F**

Stack Details

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

Emission Details

Sl. No.	Parameters	Method	Unit	Result		Permissible Limit
				1 st Fort Night	2 nd Fort Night	
				14.06.2023	17.06.2023	
	Date of Monitoring					
	Sample Code			1145	1204	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	33	32	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	64	66	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	5.35	5.32	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m ³ /hr	292892	291250	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr	258758	255419	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³	35.81	38.00	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³	24.0	19.0	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm ³	24.60	26.65	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.036	0.032	-

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

Linga
Analysed By
B P Lingaraja
Chemist

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



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/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 : **2X100 TPD Sponge iron plant Kiln 1 & 2**
- 10 Month of Sampling : **JUNE- 2023**
- 11 Date of Sample Received : 09.06.2023 & 27.06.2023
- 12 Date of Sample Analysis : 09.06.2023 & 27.06.2023
- 13 Date of Sample Analysis completion : 10.06.2023 & 28.06.2023
- 14 Report Issued Date : **07.07.2023**
- 15 Report Number : **ULR-TC532323000000315F**

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	
				08.06.2023	26.06.2023	
				1037	1431	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^o C	33	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	^o C	172	164	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	6.08	5.95	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m ³ /hr	68772	67302	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr	45963	45786	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³	23.02	23.12	150
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³	68.64	74.36	100
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm ³	35.0	29.0	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.082	0.287	-

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

Linga
Analysed By
B P Lingaraja
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 : JUNE- 2023 (1st Fort Night)
- 10 Date of Sample Received : 10.06.2023
- 11 Date of Sample Analysis : 12.06.2023
- 12 Date of Sample Analysis completion : 13.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000329F

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	10.06.2023	1066	Electric	33	42	5.72	30	1.0	5.41	50
2	Induction Furnance 2	10.06.2023	1067	Power	34	44	5.83	30	1.0	8.48	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	23292	21965	-
2	Induction Furnance 2	27861	26050	-

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)

Linga
Analysed By
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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-12
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District
- 2 Customer Reference : WO/ADMIN/FY24/R018
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Sampling Location : Rolling mill reheating furnace
- 10 Month of Sampling : JUNE- 2023
- 11 Date of Sample Received : 08.06.2023 & 24.06.2023
- 12 Date of Sample Analysis : 08.06.2023 & 26.06.2023
- 13 Date of Sample Analysis completion : 09.06.2023 & 26.06.2023
- 14 Report Issued Date : 07.07.2023
- 15 Report Number : ULR-TC532323000000309F

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	
				07.06.2023	24.06.2023	
				1020	1412	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	35	29	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	367	359	-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec	7.22	7.32	-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m ³ /hr	13067	13248	-
5	Gas flow rate at NTP	IS-11255(Part 03) (RA 2014)	Nm ³ /hr	6070	6226	-
6	Particulate Matter	IS: 11255 (Part 1) - 1985 (RA 2014)	mg/Nm ³	18.46	16.48	100
7	Sulphur Dioxide	IS: 11255 (Part 2): (RA 2014)	mg/Nm ³	143.20	128.70	270
8	Nitrogen Dioxide	IS:11255 (Part7): 2005 (RA 2017)	mg/Nm ³	32.80	28.70	50
9	Carbon Monoxide	GEMS/SOP/69	%	0.073	0.091	-

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

P. Linga
Analysed By
B P Lingaraja
Chemist

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



Note:

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TC-5323

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

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District
- 2 Customer Reference : WO/ADMIN/FY24/R018
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Sampling Location : AFBC Boiler ESP (25 MW Power Plant)
- 10 Month of Sampling : JUNE- 2023
- 11 Date of Sample Received : -
- 12 Date of Sample Analysis : -
- 13 Date of Sample Analysis completion : -
- 14 Report Issued Date : 07.07.2023
- 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
				1 st Fort Night	2 nd Fort Night	
	Date of Monitoring Sample Code			-	-	
1	Ambient Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C	Shutdown	Shutdown	-
2	Stack Temperature	IS: 11255 (Part 1) - 1985 (RA 2014)	°C			-
3	Velocity of Fuel Gas	IS: 11255 (Part 3) - 1985 (RA 2014)	m/sec			-
4	Gas flow rate at Stack Condition	IS-11255(Part 03) (RA 2014)	m 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 (Part7): 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 : JUNE- 2023 (1st Fort Night)
- 10 Date of Sample Received : 16.06.2023
- 11 Date of Sample Analysis : 16.06.2023
- 12 Date of Sample Analysis completion : 17.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000375F

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	15.06.2023	1162	-	35	38	4.79	25	0.40	20.33	50
2	Iron Ore Screen bin	15.06.2023	1163	-	36	38	4.64	30	0.40	22.40	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	2167	2070	-
2	Iron Ore Screen bin	2099	2003	-

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)

Linga
Analysed By
B P Lingaraja
Chemist

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

Note:

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TC-5323

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

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/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 : JUNE- 2023 (1st Fort Night)
- 10 Date of Sample Received : 10.06.2023 & 13.06.2023
- 11 Date of Sample Analysis : 12.06.2023 & 13.06.2023
- 12 Date of Sample Analysis completion : 12.06.2023 & 14.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000331F

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)	12.06.2023	1090	-	33	39	5.09	3.0	0.30	30.84	50
4	Main Crusher	10.06.2023	1068	-	34	37	4.55	35	0.50	18.13	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)	1295	1235	-
4	Main Crusher	3217	3073	-

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)

Linga
Analysed By
B P Lingaraja
Chemist

TUCR
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 | : JUNE- 2023 (1st Fort Night) |
| 10 | Date of Sample Received | : 15.06.2023 & 16.06.2023 |
| 11 | Date of Sample Analysis | : 15.06.2023 & 16.06.2023 |
| 12 | Date of Sample Analysis completion | : 16.06.2023 & 17.06.2023 |
| 13 | Report Issued Date | : 07.07.2023 |
| 14 | Report Number | : ULR-TC532323000000366F |

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	14.06.2023	1146	---	35	39	4.95	6.5	0.60	21.67	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	15.06.2023	1164	---	32	36	4.47	3.0	0.30	25.33	50
7	Bentonite Powder bin top bag filter	14.06.2023	1147	---	36	38	4.22	3.0	0.30	24.18	50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	15.06.2023	1165	---	33	40	4.86	7.0	0.50	28.72	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	5039	4795	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1138	1097	-
7	Bentonite Powder bin top bag filter	1074	1025	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3436	3267	-

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)

Linga
Analysed By
B P Lingaraja
Chemist

KR
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 : JUNE- 2023 (1st Fort Night)
- 10 Date of Sample Received : 10.06.2023 & 10.06.2023
- 11 Date of Sample Analysis : 10.06.2023 & 12.06.2023
- 12 Date of Sample Analysis completion : 12.06.2023 & 12.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000323F

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	09.06.2023	1054	---	34	38	4.32	30	1.20	26.90	50
11	Cooler-2 Discharge	09.06.2023	1055	---	36	38	4.63	30	1.20	28.93	50
12	Intermediate Bin & Blending	10.06.2023	1069	---	32	36	4.28	30	1.20	29.09	50
13	Product House	09.06.2023	1056	---	36	39	4.44	30	1.20	32.51	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	17591	16794	-
11	Cooler-2 Discharge	18854	17968	-
12	Intermediate Bin & Blending	17428	16766	-
13	Product House	18080	17164	-

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)

B. P. Lingaraja
Analysed By
B P Lingaraja
Chemist

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



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TC-5323

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

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ **VBSS-2**
Sl. No: Stack Monitoring Kit/ **032308**
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : **JUNE- 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 30.06.2023
- 11 Date of Sample Analysis : 30.06.2023
- 12 Date of Sample Analysis completion : 01.07.2023
- 13 Report Issued Date : **07.07.2023**
- 14 Report Number : **ULR-TC532323000000320F**

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	29.06.2023	1500	Electric	28	40	5.63	30	1.0	5.01	50
2	Induction Furnance 2	29.06.2023	1501	Power	29	42	5.75	30	1.0	7.69	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	22926	21798	-
2	Induction Furnance 2	27479	25952	-

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)

B. P. Lingaraja
Analysed By
B P Lingaraja
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/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 : JUNE- 2023 (2nd Fort Night)
- 10 Date of Sample Received : 30.06.2023
- 11 Date of Sample Analysis : 30.06.2023
- 12 Date of Sample Analysis completion : 01.07.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000474F

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	29.06.2023	1502	---	30	35	4.81	25	0.40	18.62	50
2	Iron Ore Screen bin	29.06.2023	1503	---	31	36	4.59	30	0.40	16.00	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	2176	2100	-
2	Iron Ore Screen bin	2077	1996	-

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)

B. P. Lingaraja
Analysed By
B P Lingaraja
Chemist

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

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TC-5323

ANNEXURE-20
GEMS-LD/TF/10/01

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/RO18
- 3 Sample collected by : GLOBAL Environment & Mining Services, Hosapete
- 4 Particulars of sample collected : Vayubodhak Stack sampler/ VBSS-2
Sl. No: Stack Monitoring Kit/ 032308
- 5 Instrument Details : Calibration Date: 28.03.2023
Calibration Due Date: 27.03.2024
- 6 Discipline : Chemical
- 7 Group : Atmospheric Pollution
- 8 Sample Type : Stack Monitoring
- 9 Month of Sampling : JUNE- 2023 (2nd Fort Night)
- 10 Date of Sample Received : 29.06.2023
- 11 Date of Sample Analysis : 29.06.2023
- 12 Date of Sample Analysis completion : 30.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000468F

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)	28.06.2023	1479	-	30	39	5.26	3.0	0.30	24.99	50
4	Main Crusher	28.06.2023	1480	-	29	35	4.44	35	0.50	16.98	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)	1339	1275	-
4	Main Crusher	3139	3026	-

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)

Linger
Analysed By
B P Lingaraja
Chemist

RKR
Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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

ANNEXURE-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 : JUNE- 2023 (2nd Fort Night)
- 10 Date of Sample Received : 17.06.2023 & 20.06.2023
- 11 Date of Sample Analysis : 19.06.2023 & 20.06.2023
- 12 Date of Sample Analysis completion : 19.06.2023 & 21.06.2023
- 13 Report Issued Date : 07.07.2023
- 14 Report Number : ULR-TC532323000000420F

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	17.06.2023	1205	---	35	38	4.83	6.5	0.60	22.85	50
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	19.06.2023	1284	---	34	38	4.84	3.0	0.30	30.59	50
7	Bentonite Powder bin top bag filter	17.06.2023	1206	---	36	39	4.27	3.0	0.30	28.57	50
8	H-4 Conveyor discharge bag filter	-	-	---	-	-	-	7.0	0.50	-	50
9	P-1 Bag Filter	19.06.2023	1285	---	35	40	4.71	7.0	0.50	35.42	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	4917	4694	-
6	Lime Powder bin top bag Filter/ Powder Coal Main Bag Filter	1232	1175	-
7	Bentonite Powder bin top bag filter	1087	1034	-
8	H-4 Conveyor discharge bag filter	-	-	-
9	P-1 Bag Filter	3330	3154	-

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)

Linga
Analysed By
B P Lingaraja
Chemist

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



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TC-5323

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

Analysis Report of Stack Emission

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/FY24/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 : **JUNE- 2023 (2nd Fort Night)**
- 10 Date of Sample Received : 28.06.2023 & 29.06.2023
- 11 Date of Sample Analysis : 28.06.2023 & 29.06.2023
- 12 Date of Sample Analysis completion : 29.06.2023 & 30.06.2023
- 13 Report Issued Date : **07.07.2023**
- 14 Report Number : **ULR-TC532323000000463F**

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	27.06.2023	1458	---	32	35	4.46	30	1.20	27.98	50
11	Cooler-2 Discharge	28.06.2023	1481	---	29	35	4.33	30	1.20	29.65	50
12	Intermediate Bin & Blending	28.06.2023	1482	---	29	36	4.21	30	1.20	31.11	50
13	Product House	28.06.2023	1483	---	30	37	4.51	30	1.20	30.11	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	18161	17514	-
11	Cooler-2 Discharge	17632	17044	-
12	Intermediate Bin & Blending	17143	16511	-
13	Product House	18324	17580	-

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)

B P Lingaraja
Analysed By
B P Lingaraja
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 150 days, Minerals 3 Months, Filter papers & Thimbles After analysis Discard.
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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/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 : JUNE- 2023
Report Issue Date : 07.07.2023
Method Adopted : IS 9989-1981 Reaffirmed 2014
Report No : ULR-TC532323000000318F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	01.06.2023	48.5	53.2	75	40.5	42.8	70
2	Near ATM	01.06.2023	45.2	51.3	75	40.1	42.0	70
3	Transit House	02.06.2023	50.2	56.5	75	41.6	43.4	70
4	CAAQMS Station	02.06.2023	48.2	54.9	75	42.4	44.8	70
5	Gunda Road	03.06.2023	44.2	46.8	75	43.7	44.8	70
6	Gunda Railway Station	03.06.2023	58.2	62.0	75	48.6	50.1	70
7	Bagging Shed	05.06.2023	54.2	57.8	75	50.8	52.8	70
8	Railway Siding	05.06.2023	62.4	68.2	75	49.8	52.8	70
9	4th Gate	06.06.2023	52.2	54.6	75	50.2	52.8	70
10	Bricks Plant	06.06.2023	64.5	70.2	75	44.3	46.2	70
11	Kempuhalla (Wagon Tippler)	07.06.2023	49.8	54.8	75	43.8	46.4	70
12	Danapura Bridge	07.06.2023	53.4	58.0	75	53.7	56.4	70
13	2nd Gate	08.06.2023	49.2	53.9	75	42.8	44.2	70
14	Project Store	08.06.2023	46.2	49.2	75	40.8	42.4	70
15	Dispatch (Truck Parking Area)	08.06.2023	66.2	69.2	75	57.2	59.0	70

INFERENCE

As per CPCB Standards,

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

K. Ramakrishna Reddy
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 : JUNE- 2023
Report Issue Date : 07.07.2023
Method Adopted : IS 9989-1981 Reaffirmed 2014
Report No : ULR-TC532323000000433F

Sl. No	Location	Date of Monitoring	Noise Level dB (A)					
			Day Time		Standard	Night Time		Standard
			Min	Max		Min	Max	
1	Main Gate	17.06.2023	46.2	49.2	75	41.2	56.2	70
2	Near ATM	17.06.2023	45.1	47.8	75	40.2	53.5	70
3	Transit House	19.06.2023	47.6	54.8	75	39.8	52.6	70
4	CAAQMS Station	19.06.2023	42.2	46.0	75	44.6	55.2	70
5	Gunda Road	20.06.2023	48.2	59.8	75	42.4	55.4	70
6	Gunda Railway Station	20.06.2023	56.8	60.5	75	43.6	57.4	70
7	Bagging Shed	21.06.2023	51.2	56.8	75	55.2	63.8	70
8	Railway Siding	21.06.2023	58.0	63.5	75	56.3	67.2	70
9	4th Gate	22.06.2023	49.6	55.6	75	40.8	60.1	70
10	Bricks Plant	22.06.2023	52.4	57.2	75	44.1	52.6	70
11	Kempuhalla (Wagon Tippler)	23.06.2023	48.2	51.5	75	47.1	55.3	70
12	Danapura Bridge	23.06.2023	55.0	59.2	75	43.2	58.7	70
13	2nd Gate	24.06.2023	47.2	49.8	75	41.1	56.6	70
14	Project Store	24.06.2023	44.2	47.2	75	42.6	54.1	70
15	Dispatch (Truck Parking Area)	24.06.2023	58.0	64.8	75	47.4	62.8	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-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 : **JUNE- 2023**
Report Issue Date : **07.07.2023**
Method Adopted : IS 9989-1981 Reaffirmed 2014
Sample Code : 1061, 1074, 1095, 1122, 1148 & 1166
Report No : **ULR-TC532323000000197F**

Sl. No	Location	Date of Monitoring	Noise Level dB (A)						
			Day Time			Standard	Night Time		
			Min	Max	Avg		Min	Max	Avg
1	Danapur Village	09.06.2023	49.2	53.9	51.15	55	34.9	42.8	39.01
2	Mariyammana Halli	10.06.2023	48.5	53.8	50.95		36.8	43.2	40.05
3	Hanumana Halli	12.06.2023	45.2	53.2	47.86		38.3	43.2	41.95
4	Galemmanagudi	13.06.2023	44.2	46.8	45.27		37.6	42.1	40.78
5	Gunda Village	14.06.2023	44.1	46.5	45.25		35.4	40.2	38.53
6	Gunda Tanda Village	15.06.2023	46.2	49.2	47.73		35.3	41.6	39.43

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

NOISE: (AMBIENT STANDARDS)

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

Note:

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TC-5323

ANNEXURE-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 : 1211
- 10 Date of Sampling : 17.06.2023
- 11 Sample Received : 17.06.2023
- 12 Date of Analysis : 17.06.2023
- 13 Date of Analysis Completion : 23.06.2023
- 14 Report Issue Date : 07.07.2023
- 15 Report Number : ULR-TC532323000000391F

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)	-	7.04	6.5 to 8.5	NR
2.	Conductivity	APHA 23rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2600	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1664	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	163.84	200	400
7.	Phosphorus as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	Nil	-	-
8.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	223.10	-	-
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	108.80	75	200
11.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	68.62	30	100
12.	Total Hardness as CaCO ₃	APHA 23rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	554.40	200	600
13.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	378.07	250	1000
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.77	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	9.8	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	491.5	200	600

Note:

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TC-5323

ANNEXURE-26

17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.12	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.238	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.212	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd 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.

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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e-mail : gems_hpt@yahoo.com

Website : www.globalmining.in

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

Analysis Report of Water Quality Data

- 1 Name of the Industry : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District.
- 2 Customer Reference : WO/ADMIN/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 : 1211
- 10 Date of Sampling : 17.06.2023
- 11 Sample Received : 17.06.2023
- 12 Date of Analysis : 17.06.2023
- 13 Date of Analysis Completion : 23.06.2023
- 14 Report Issue Date : 07.07.2023

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	: 1213
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023
15	Report Number	: ULR-TC532323000000393F

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)	-	7.26	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	2800	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1792	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	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	145.94	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	378.95	-	-
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	112.00	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	64.63	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	546.00	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	413.48	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.82	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	10.13	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	496.46	200	600

Note:

- The result listed refers only to the tested samples & applicable parameters. Endorsement of products is neither inferred nor implied.
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ANNEXURE-27

17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.13	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.324	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.232	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd 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.

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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Website : www.globalmining.in

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	: 1213
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023

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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Website : www.globalmining.in



TC-5323

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

Analysis Report of Water Quality Data

- | | | |
|----|---------------------------------|---|
| 1 | Name of the Industry | : BMM Ispat Ltd., Danapur, Hosapete Taluk, Vijayanagara District. |
| 2 | Customer Reference | : WO/ADMIN/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 | : 1214 |
| 10 | Date of Sampling | : 17.06.2023 |
| 11 | Sample Received | : 17.06.2023 |
| 12 | Date of Analysis | : 17.06.2023 |
| 13 | Date of Analysis Completion | : 23.06.2023 |
| 14 | Report Issue Date | : 07.07.2023 |
| 15 | Report Number | : ULR-TC532323000000394F |

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)	-	7.77	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	139.98	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	167.8	-	-
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	108.80	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	74.74	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	579.6	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	379.98	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	9.93	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	412.80	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	0.14	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	0.331	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.241	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:

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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 : 1214
- 10 Date of Sampling : 17.06.2023
- 11 Sample Received : 17.06.2023
- 12 Date of Analysis : 17.06.2023
- 13 Date of Analysis Completion : 23.06.2023
- 14 Report Issue Date : 07.07.2023

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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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	: 1212
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023
15	Report Number	: ULR-TC532323000000392F

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)	-	7.1	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	2500	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	1600	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.5	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	162.35	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	222.70	-	-
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	102.40	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	71.49	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	550.20	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	319.68	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	9.7	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	483.84	200	600

Note:

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TC-5323

ANNEXURE-29


17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.11	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.186	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.263	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR


Note: GW4: Mariyammanahalli Village. NR-No relaxation. Ab-Absent.

INFERENCE

As per Standards IS: 10500:2012

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


Analysed By
 Priyanka B M
 Jr.Chemist


Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



Note:

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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	: 1212
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023

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	: 1215
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023
15	Report Number	: ULR-TC532323000000395F

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)	-	7.55	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	800	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	512	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	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	27.07	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	58.84	-	-
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	44.00	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	27.36	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	222.60	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	106.24	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	8.05	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	282.2	200	600

Note:

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ANNEXURE-30


17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.1	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.226	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.132	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR

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

INFERENCE

As per Standards IS: 10500:2012

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


Analysed By
 Priyanka B M
 Jr.Chemist


Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager



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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	: 1215
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023

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	: 1216
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023
15	Report Number	: ULR-TC532323000000396F

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)	-	7.22	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	μS/cm	860	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	550	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	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	28.11	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	65.93	-	-
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	46.40	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	28.96	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	235.2	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	112.94	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.67	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	8.10	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	299.52	200	600

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TC-5323

ANNEXURE-31


17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.11	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.218	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.111	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd 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	: 1216
10	Date of Sampling	: 17.06.2023
11	Sample Received	: 17.06.2023
12	Date of Analysis	: 17.06.2023
13	Date of Analysis Completion	: 23.06.2023
14	Report Issue Date	: 07.07.2023

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
Priyanka B M
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 : **1217**
- 10 Date of Sampling : 17.06.2023
- 11 Sample Received : 17.06.2023
- 12 Date of Analysis : 17.06.2023
- 13 Date of Analysis Completion : 23.06.2023
- 14 Report Issue Date : **07.07.2023**
- 15 Report Number : **ULR-TC532323000000397F**

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)	-	7.14	6.5 to 8.5	NR
2.	Conductivity	APHA 23 rd Edition 2017 2510 A (Pg. No.2-56 to 2-58)	µS/cm	300	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	192	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	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	11.93	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	18.75	-	-
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	12.8	75	200
11.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	11.61	30	100
12.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	79.80	200	600
13.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	43.07	250	1000
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.33	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	1.64	45	NR
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	80.64	200	600

Note:

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17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	Nil	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B. (Pg. No.3-80 to 3-82)	mg/L	0.09	0.30	NR
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.02	0.02	NR
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.128	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	0.064	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	NR
24.	Arsenic as As	APHA 23 rd Edition 2017 3114 B. (Pg. No.3-36 to 3-40)	mg/L	<0.01	0.01	0.05
25.	Chromium as Cr	APHA 23 rd Edition 2017 3500 Cr-B. (Pg. No.3-71 to 3-72)	mg/L	<0.05	0.05	NR
26.	Mercury as Hg	APHA 23 rd 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.

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-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 : 1217
- 10 Date of Sampling : 17.06.2023
- 11 Sample Received : 17.06.2023
- 12 Date of Analysis : 17.06.2023
- 13 Date of Analysis Completion : 23.06.2023
- 14 Report Issue Date : 07.07.2023

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	:	17.06.2023
10	Sample Received	:	17.06.2023
11	Date of Analysis	:	17.06.2023
12	Date of Analysis Completion	:	23.06.2023
13	Report Issue Date	:	07.07.2023
14	Report Number	:	ULR-TC532323000000402F

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	1225	1226	1227	
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.65	7.43	7.40	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	8.22	6.34	8.45	<10
3.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	2.0	6.0	4.0	<10
4.	Chemical Oxygen Demand as COD	APHA 23 rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	2.0	40.32	2.0	<50
5.	Oil & Grease	APHA 23 rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	3.20	1.60	2.80	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	: 17.06.2023
10	Sample Received	: 17.06.2023
11	Date of Analysis	: 17.06.2023
12	Date of Analysis Completion	: 23.06.2023
13	Report Issue Date	: 07.07.2023

Sl. No.	Parameters	Protocol	Unit	Results			As per KSPCB Std
				STP 45 KLD	STP-1 90 KLD	STP-2 90 KLD	
		Sample code	-	1225	1226	1227	
1.	Color	APHA 23 RD Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	7	6	8	-
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	1.28	1.36	-

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

STP 45 KLD – Near Fortivia

STP-1 90 KLD –Near ISP Area

STP-2 90 KLD –Near Gunda Guest House

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



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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	: 17.06.2023
10	Sample Received	: 17.06.2023
11	Date of Analysis	: 17.06.2023
12	Date of Analysis Completion	: 23.06.2023
13	Report Issue Date	: 07.07.2023
14	Report Number	: ULR-TC532323000000398F

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		
				1218	1219	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.82	7.90	6.5 to 9.0
2.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	10.24	16.28	100
3.	Chemical Oxygen Demand as COD	APHA 23rd Edition 2017 5220 C (Pg. No.5-18 to 5-19)	mg/L	0.0	20.16	250
4.	Oil & Grease	APHA 23rd Edition 2017 5520 B (Pg. No.5-41 to 5-42)	mg/L	1.20	2.40	10

Note: BDL-Below detectable Limit.

INFERENCE: The Measured values are within the Limit.

Analysed By
Priyanka B M
Jr.Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager



Note:

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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	: 17.06.2023
10	Sample Received	: 17.06.2023
11	Date of Analysis	: 17.06.2023
12	Date of Analysis Completion	: 23.06.2023
13	Report Issue Date	: 07.07.2023

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				Danayakanakere Upstream	Danayakanakere Downstream	
Sample code				1220	1221	
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.84	7.87	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	4.0	2.0	3.0
3.	Fluorides as F	APHA 23 RD Edition 4500F- D (Pg. No.4-90 to 4-91)	mg/L	0.23	0.27	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	6.0	6.80	>5.0
6.	Color	APHA 23 RD Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	7	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

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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	: 17.06.2023
10	Sample Received	: 17.06.2023
11	Date of Analysis	: 17.06.2023
12	Date of Analysis Completion	: 23.06.2023
13	Report Issue Date	: 07.07.2023

Sl. No.	Parameters	Protocol	Unit	Results		IS 2296 - 1982 CLASS -B
				KempuHalla Upstream	KempuHalla Downstream	
		Sample code		1222	1223	
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.97	8.03	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	4.0	2.0	3.0
3.	Fluorides as F	APHA 23 rd Edition 4500F D (Pg. No.4-90 to 4-91)	mg/L	0.10	0.28	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	5.20	6.0	>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
 K. Ramakrishna Reddy
 Technical Manager



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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	: 17.06.2023
10	Sample Received	: 17.06.2023
11	Date of Analysis	: 17.06.2023
12	Date of Analysis Completion	: 23.06.2023
13	Report Issue Date	: 07.07.2023

Sl. No.	Parameters	Protocol	Unit	Results	IS 2296 -1982 CLASS -B
				Tungabhadra dam	
				Sample Code	
				1224	
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.85	6.5-8.5
2.	Biochemical Oxygen Demand as BOD (3 days at 27°C)	IS:3025 (part 44)-1993, Reaffirmed -2019	mg/L	6.0	3.0
3.	Fluorides as F	APHA 23 rd Edition 4500F D (Pg. No.4-90 to 4-91)	mg/L	0.19	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	5.6	>5.0
6.	Color	APHA 23 rd Edition 2120 B (Pg. No.2-6 to 2-7)	Hazen	6	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



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