



स्टील अथॉरिटी ऑफ इंडिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
राउरकेला इस्पात संयंत्र
ROURKELA STEEL PLANT
बोलानी अयस्क खदान
BOLANI ORES MINES

Ref No: - CGM/B- 60/

Date: 26-06-2025

To

Dy. Director General of Forests (Central),
Ministry of Environment, Forest and Climate Change,
Regional Office (EZ),
A/3, Chandersekharpur,
Bhubaneswar – 751023

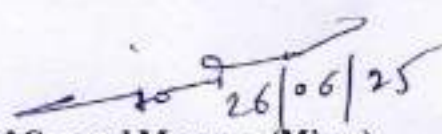
Sub: Six monthly status of compliance to the conditions stipulated in the Environmental Clearance granted by MoEF&CC for 15000 TPA Manganese Ore production from 6.90 sq. Miles ML vide letter no. J-11015/396/2008-IA.II (M) DATE-21.12.2012, for the period of Oct'24-Mar'25.

Sir,

Please find enclosed herewith the Six monthly compliance report for the period Oct'24-Mar'25 with respect to the conditions stipulated by GoI, MoEF&CC, New Delhi, in the Environmental Clearance grant order of Bolani Manganese Ore Mines for the production of 15000 TPA Manganese Ore from 6.90 sq Miles ML vide ministry's letter no. J-11015/396/2008-IA.II (M) DATE-21.12.2012

Thank you,

Yours faithfully,


Chief General Manager (Mines)
Bolani Ores Mines, RSP-SAIL

Encl: As above

Copy:

1. Director, IA Division, MoEF&CC, GOI, Indira Paryavaran Bhavan, Aliganj, Jor Bagh Road, New Delhi - 110 003.
2. The Member Secretary, State Pollution Control Board, Paribesh Bhawan, A/118, Nilkantha Naga, Unit – VIII, Bhubaneshwar – 751 012, Odisha

**SIX-MONTHLY
EC COMPLIANCE
REPORT (6.90 ML)**

FOR THE PERIOD OCT'2024-MAR'2025

**EC GRANT ORDER
J-11015/396/2008-IA.II (M)
DATE-21.12.2012
PERIOD: OCT'2024-MAR'2025**

**Lessee: Bolani Manganese & Iron Ore Mines
(6.90 ML, 1586.36 ha)**



सेल SAIL

***BOLANI ORES MINES
ROURKELA STEEL PLANT
M/S SAIL***

SPECIFIC CONDITIONS

- 1) **Environmental Clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as applicable.**

Compliance: Complied.

Provision of Wildlife (Protection) Act, 1972 is not attracted to the Project proponent as the project is not located within any protected area or ESZ of any protected area.

- 2) **The mining operation shall be restricted to above ground water table and it shall not intersect groundwater table. In case of working below the ground water table, Prior approval of the Ministry of Environment & Forest and Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out. The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.**

Compliance: Complied.

The bottom level of all the operating quarries are above Ground water table as on date. Bolani Ores Mines confirm that the mining operation will be restricted to above the ground water table and will not intersect the groundwater table. In case of working below the groundwater table, prior approval from the Ministry of Environment & Forest and Central Ground Water Authority will be obtained, following a detailed hydro-geological study. It is ensured that no natural watercourse or water resources will be obstructed due to any mining operations.

- 3) **Mitigation measures to control RSPM levels shall continue to be implemented and air quality data will also be collected during operation of the mines. The data so collected shall be analyzed to see the effectiveness of the mitigation measures implemented. Based on the same, additional safeguard measures, as may be required shall be implemented in the project.**

Compliance: Complied.

Mitigation measures are regularly implemented to control the RSPM levels. Bolani Ores Mines, M/s SAIL has completed the implementation of following mitigation measures:

- a) Repaired and blacktopped the Road from Karo Bridge to Bolani entry point (3.2 km) at a cost of Rs.732 lakhs.
- b) Repaired and blacktopped the Balagoda - Bolani road (2.4 km) at a cost of Rs.20 lakhs.
- c) Dust suppression measures are strengthened by increasing frequency of plying of mobile sprinklers as such 03 no's 9KL Mobile sprinklers are deployed by BOM for Dust suppression on all internal and external roads including Haul roads to control the RSPM levels.
- d) 01 No Truck mounted vacuum based Road sweeping machine at a cost of Rupees 73.75 Lakhs has been purchased in 2023-24 and being operated on the internal concrete /black topped roads.
- e) Dry Fog Dust suppression system has been installed in the 600 TPH Crushing & Screening Plant and loading plant.

- f) In addition to mobile water sprinkling on haul roads, fixed water sprinkling facility for 350 meters length has been extended to the Public roads inside this lease.
- g) Fixed water sprinkling system has been installed along the roads around the loading plant area.
- h) Truck Mounted Mist cannon with a throw of 40-50m has been procured and deployed.
- i) Two (2) nos of rotating fog cannons has been installed in the Lump Loading Plant and Two (2) nos of rotating fog cannons has been installed in the fines loading plant.

Photographs showing implementation of above said Air Pollution control measures enclosed at **Annexure-I** & the monitoring reports of RSPM for the last six months is enclosed at **Annexure-II**.

Regular Environmental monitoring/audit is the part of the Environmental Management System (EMS) implemented at Bolani Ore Mines. For conformance of the air quality to the applicable norms and thereby effectiveness of the pollution control equipment / facilities is regularly reviewed for taking up any additional safeguard measures, if any required.

- 4) **The biological survey shall be repeated during October- December and mid-May month to see the existence of wildlife corridors, if any. Based on the same, necessary Wildlife Conservation Plan as may be required shall be prepared and implemented in consultation with the state Forest and Wildlife Department.**

Compliance: Complied.

Necessary biological surveys were conducted by expert committees and Wild Life Experts and based on the same, Site Specific Wildlife Conservation Plan has been prepared and approved by the state Forest and Wildlife Department vide order no 10680/1WL-FC-Mrl-SSP-228/2018 Dt.22.11.2018 with a total financial outlay of Rs.1088.431 lakhs. An amount of Rs.772.999 lakhs has already been deposited in CAMPA account of Forest Dept. for interventions in Project impact area.

The Study revealed no Wildlife corridors within the Mining Lease area.

- 5) **The biological survey shall also be undertaken to identify the trees with orchids, if any such trees, so identified shall be protected and if need be, these trees may be relocated.**

Compliance: Complied.

Detailed study of the area for identification of orchids by the MoEF&CC empaneled consultant, M/s Grow Green Consortium Pvt. Ltd, had been completed. A Report based on survey including recommendations for preservation of the species has been submitted to Regional Office of MoEF&CC vide our letter no. BOM/ENV/HD-1707A Dt.17.07.2019.

- 6) **The Over Burden (OB) generated during the mining operation shall be stacked at earmarked dump sites(s) only and should not be kept active for long period. 1.775 million M³ of waste will be generated during the conceptual period, which will be partly backfilled (74%). In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest and its Regional Office located at Bhubaneswar on six monthly bases.**

Compliance: Complied.

Mining of Manganese Ore is carried out in already broken-up area. Over Burden (OB) generated from the mines is dumped at earmarked sites as per the IBM approved review of Mining Plan. All inactive dumps shall be reclaimed and rehabilitated as per the provisions of the Mining Plan

- 7) **Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from mine working, soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted particularly after monsoon and maintained properly.**

Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and OB Dump and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of slit material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Compliance: Complied.

The production of Manganese Ore during 2024-25 was restricted to Quarry-5 only. Very meager amount of OB has been generated during 2024-25 against the planned quantity. Hence, there was no substantial dumping. However, installation of retaining wall with Garland drain around Quarry-5 and Quarry-10 for effective runoff management is completed.

- 8) **Dimension of retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.**

Compliance: Complied.

The following actions are taken for compliance:

- (1) Garland drain and sedimentation pit around Mineral stack yards has been provided and are de-silted after monsoon regularly.
 - (2) The size of the settling pits are designed so that, the runoff discharge gets ample time for settling and quality from runoff management system meets the prescribed standards.
- 9) **The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. Spotted in the study area. All the safeguard measures brought out in the wild life conservation plan so prepared specific to this project site and approved by the chief conservator of forests (wildlife) shall be effectively implemented. A copy of wildlife conservation plan shall be submitted to the ministry of environment and forests and its regional office, Bhubaneswar.**

Compliance: Complied.

Necessary biological surveys were conducted by expert committees and Wild Life Experts and based on the same, Site Specific Wildlife Conservation Plan has been prepared and approved by the state Forest and Wildlife Department vide order no 10680/1WL-FC-Mrl-SSP-228/2018 Dt. 22.11.2018 with a total financial outlay of Rs.1088.431 lakhs. An amount of Rs.772.999 lakhs has

already been deposited in CAMPA account of Forest Dept. for interventions in Project impact area.

The Study revealed no Wildlife corridors within the Mining Lease area.

- 10) The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e. PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300 m distance or within the nearest habitation, whichever is closer shall be Monitored periodically. Further, quality of discharged water shall also be monitored [TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006- IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forest, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for the compliance.

Compliance: Complied.

The ambient monitoring locations and parameters are as follows:

AMBIENT AIR QUALITY MONITORING STATIONS				
SL. NO.	LOCATION	PARAMETERS MONITORED	ZONE	REMARKS
1	CISF Colony	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	CAAQMS (Online)
2	Campus Office	PM10, PM2.5, SOx, NOx	BUFFER/IMPACT ZONE (5.10 ML)	CAAQMS (Online)
3	JNRC	PM10, PM2.5	CORE ZONE (6.90 ML)	CAAQMS (Online)
4	Near Karo Bridge	PM10, PM2.5	CORE ZONE (6.90 ML)	CAAQMS (Online)
5	Bolani Village Community Centre	PM10, PM2.5, SO2, NOx & CO	CORE ZONE (6.90 ML)	AAQMS (Manual)
6	DAV Public School	PM10, PM2.5, SO2, NOx & CO	CORE ZONE (6.90 ML)	AAQMS (Manual)
7	Main Gate	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	AAQMS (Manual)
8	Bolani Mines Office Complex	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	AAQMS (Manual)
9	Limtur Village (Near Quarry-5)	PM10, PM2.5	CORE ZONE (6.90 ML)	AAQMS (Manual)
10	Karo Guest House	PM10, PM2.5	CORE ZONE (6.90 ML)	AAQMS (Manual)

1. The peak particle velocity was monitored in Jan -Feb 2025 at these following locations (at 300 m distance or within the nearest habitation):

SL. NO.	LOCATION
1	Near F-Area Hopper
2	Near Bolani Hospital
3	Near DAV Public School Bolani
4	Near Laxmi Mandap Bolani

2. The report of Peak Particle Velocity is enclosed in **Annexure – III**.
3. The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e. PM10) and NOx in the ambient air are monitored within the impact zone, within the nearest habitation which falls inside lease area.
4. 04 AAQ monitoring station are online type
5. Beneficiation plant in the adjoining 5.10 sq. Mile ML is not operational and hence there no effluent generation. However, quality of Monsoon Runoff water was monitored [all parameters including TDS, DO, PH and Total Suspended Solids (TSS)] quarterly.
6. Surface water of various Streams in and around ML area is being monitored quarterly.
7. The monitored data is submitted along with six monthly compliance reports being uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain.

The Environment parameter monitoring Reports are enclosed as **Annexure-II**.

The Collected Data is analyzed regularly to identify, predict and evaluate the environmental impacts of the ongoing mining and allied activities. Accordingly, potential impacts on environment have been assessed and suitable Environmental Management Plan has been formulated.

26/06/25
Chief General Manager (Mines)
Bolani Ores Mines, RSP - SAIL

जयदेव चट्टोपाध्याय/Loydev Chatteropadhyay
 मुख्य महाप्रबन्धक (खान) / Chief General Manager (Mines)
 रौल-आर.एस.पी.बोलानी अगस्त खदान
 SAIL-RSP-Bolani Ores Mines
 बोलानी-758037, बरगडार, ओडीशा
 Bolani-758 037, Keonjhar, Odisha

GENERAL CONDITIONS

- 1) **No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests**

Compliance: Complied.

There is no change in Mining technology or scope of work from that which is approved in Mining Plan/Review of Mining Plan. Prior approval from MoEF&CC shall be sought to change Mining technology or scope of work.

- 2) **No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.**

Compliance: Complied.

No change in the calendar plan including excavation, quantum of mineral iron ore and waste will be made.

- 3) **The project proponent shall obtain Consent to establish from the State Pollution Control Board, Orissa and effectively implement all the conditions stipulated therein.**

Compliance: Complied.

The Extension of validity of Consent to Establish granted vide Order no. 23403/Ind-II-NOC-5374 dt. 21.02.2013, has been granted vide Order no. 4897/IND-II-NOC-5374 dt 22/05/2019, till 20.12.2023. Subsequently, CTO has been granted vide no. 6489/IND-I-CON-6442 Dt. 28/03/2025 with valid up to 05 years i.e. 31.03.2030.

The conditions stipulated vide the said grant orders are effectively implemented and a compliance report has already been submitted to OSPCB during grant of consent to operate.

- 4) **A final mine closure plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forest 5 years in Advance of final mine closure for approval.**

Compliance: Complied.

Final Mine Closure plan along with details of Corpus fund will be submitted to the Ministry 5 years in advance of final mine closure for approval. However, the Progressive Mine Closure Plan (PMCP) has been approved by IBM vide their letter no. MRMP/A/16-ORI/BHU/2021-22 Dt. 05.08.2021.

- 5) **The project proponent shall practice Suitable rain water harvesting measures on long term basis and work out detailed scheme rain water harvesting in consultation with Central Ground Water Authority and submit a copy of the same to the Ministry of Environment & Forests and its Regional Office, Bhubaneswar.**

Compliance: Complied.

The Rainwater Harvesting measures, proposed in report of "Technical Feasibility Study on Rain Water Harvesting & Master Plan for Ground Water Recharges" by consultant, M/s KRG

Rainwater Foundation, have been approved by CGWB Bhubaneswar vide their letter no.: 5-22/CGWA/ SER/2018-19-1306 Dt. 26.12.2018.

Meanwhile, departmental initiatives for Soil and moisture Conservation had been taken up, measures such as de-silting of network of seasonal water channels, Plantations of drought hardy plant species on the degraded lands, water harvesting structures along seasonal channels, have been taken up by Bolani Ore Mines, SAIL to augment ground water recharge, as per schemes prepared with in-house expertise, in line with prevailing guidelines of CGWB. Bolani Ore Mines is not using any ground water either for domestic purpose or for industrial purpose, neither has any plan to do so for future mining activities.

- 6) **Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of Mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.**

Compliance: Complied.

1. Regular emission monitoring of HEMM and Light vehicles deployed by BOM in Mining operations is done by Mechanical Maintenance section of BOM to ensure emission within norms.
2. Preventive Maintenance of all these HEMM & light vehicles is undertaken by Mechanical Maintenance section regularly to keep the vehicular emissions under control.
3. All the vehicles engaged in mining and transporting activity in the mine has Pollution under Control (PUC) certificate.
4. The ore is transported to various Steel Plants, through Railway wagons only.
5. The list of vehicles engaged and their PUC details are mentioned as follows:

SL NO.	EQUIPMENT TYPE	AREA	EQUIPT. NO	MAKE	PUC VALIDITY
1	Explosive van	Mines	Od09c6302	Tata motors	11-10-2025
2	Explosive van	Mines	Od09v9850	Ashok leyland	30-12-2025
3	Diesel browser	Mines	Od09v2926	Ashok leyland	27-08-2025
4	Diesel browser	Mines	Up16bt8809	Ashok leyland	11-10-2025
5	Truck	Mechanical	Od09p1842	Mahindra	30-09-2025
6	Truck	Store	Od09v7507	Eicher	15-07-2025
7	Truck	Opp	Od09p3263	Tata motors	30-09-2025
8	Mist cannon truck	E&I	Od09p6495	Eicher	30-09-2025
9	Water tanker	Mines	Od09a2122	Ashok leyland	11-10-2025
10	Water tanker	Mines	Od09w7884	Ashok leyland	05-07-2025
11	Water tanker	Mines	Od09v9936	Tata motors	05-01-2026
12	Maint. Van	Mechanical	Or09q9263	Tata motors	11-10-2025
13	Ambulance	Hospital	Od09k3343	Tata motors	30-09-2025
14	School bus	Mines	Od09a0946	Tata motors	11-10-2025
15	Scorpio	Hr	Or09p7545	Mahindra	11-10-2025
16	Scorpio-s11	Cgm pool	Od09k6668	Mahindra	30-09-2025
17	Bolero jeep	Plant	Od09k3576	Mahindra	30-09-2025
18	Bolero jeep	Mines	Od09c2376	Mahindra	11-10-2025

19	Bolero jeep	Electrical	Od09c2375	Mahindra	11-10-2025
20	Bolero jeep	Mines	Od09c2374	Mahindra	11-10-2025
21	Bolero jeep	Cgm pool	Od09v1162	Mahindra	30-05-2026
22	Bolero camper	Survey	Od09c2371	Mahindra	11-10-2025
23	Bolero camper	Electrical	Od09c2372	Mahindra	11-10-2025
24	Bolero camper	Plant	Od09c2373	Mahindra	11-10-2025
25	Bolero camper	Plant	Od09k2575	Mahindra	30-09-2025
26	Bolero camper	Mechanical	Od09k2576	Mahindra	30-09-2025
27	Tata yodha camper	Mechanical	Od09w8346	Tata motors	05-07-2025
28	Tata yodha camper	Civil	Od09w8376	Tata motors	05-07-2025
29	Crane-6	Mechanical	Od09c0672	TIL	N/A
30	Crane-7	Mechanical	Od09k6541	ACE	N/A
31	Crane-8	Mechanical	No registration	Uttam construction	N/A

- 7) **No Blasting shall be carried out after the sunset. Blasting operation should be carried out only during the day time. Controlled Blasting should be practiced. The mitigates measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. Drills shall either be operated with the dust extractors or equipped with water injection system.**

Compliance: Complied.

No Blasting has been carried out in the Manganese Mining (6.90 ML) area for winning of ore at BOM during 2024-25.

- 8) **Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer point should also have efficient dust control arrangements. These should be properly maintained and operated.**

Compliance: Complied.

Dry Fog Dust Suppression system has been installed in Loading and dispatch plant and the same is also well maintained through Annual Maintenance contracts by respective unit and is always kept functional during plant operation. The photographs of such air pollution control measures were submitted in earlier compliance reports and are enclosed as **Annexure - I**. In the Mineral handling areas such as Loading plant area, High Pressure fixed dust suppression system in 600 TPH Plant and fixed water sprinkling systems have been provided.

- 9) **Sewage treatment plant shall be installed for the colony. ETP should also be provided for the workshop and wastewater generated during mining operation.**

Compliance: Complied.

Based on the conceptual plan submitted by IIT KGP a detail feasibility report (FR), Technical Specification (TS) for STP of capacity 2.4 MLD Capacity has been prepared by CET, an in-house

consultant of SAIL, for execution. Implementation period of the job is 24 months. In this regard, Two Work Orders have been issued for laying of Drainage Network and Construction of STP at financial outlays of Rs. 4.40 crores and Rs. 6.68 crores respectively. The Job of installing the drainage network is completed. Construction of STP is under progress. Meanwhile, individual septic tanks followed by soaking pits have been provided in all quarters and office locations.

The following actions are taken for compliance:

- a) There is no maintenance activity of Mining Machineries is carried out inside this ML area. The contractor does the maintenance activities at his own premises. Hence, Installation of ETP is not applicable.
- b) However, washing of all the light vehicles plying inside this ML and equipment's and equipment maintenance are carried out at designated workshops and washing bays inside 5.10 Sq Mile ML, which are provided with ETPs (Oil and Grease catch traps) to collect and treat workshop effluent. Further, revamping of these ETPs has been undertaken. Installation of One no Mechanical ETP has been completed and installation of another one is under progress.
- c) The quality of the treated water conforms to the prescribed standards.

The discharge from these ETPs conforms to the prescribed standard for discharge. The consolidated analysis report of discharge from these ETPs is submitted herewith as **Annexure-IV**.

- 10) **Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.**

Compliance: Complied.

1. Pre-placement medical examination and periodical medical examination of the workers engaged in the project is being carried out and records maintained.
2. Schedule of health examination of the workers has been drawn and is being followed accordingly.

The summary of medical examinations carried out during 2024-25, as on date of preparation of this report, is as follows:

Contractual workers		Employees	
Pre-placement medical examination	Periodical medical examination	Pre-placement medical examination	Periodical medical examination
444 nos.	292 nos.	35 nos.	124 nos.

- 11) **Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.**

Compliance: Complied.

1. In compliance to conditions of Forest Clearance grant order, no forest land is being used for housing of laborers. As such, the laborers engaged in the construction activity belong to nearby villages.
 2. The housing of construction labour are allotted company's quarters in township as per availability where there is proper sanitation facilities and health care in company's hospital are provided to them
 3. However, provision are made, as and when necessary, for the housing of construction workers adjacent to the construction sites, in non-forest lands, in the form of temporary structures removed after the completion of the project.
- 12) **Regular monitoring of ground water level and quality should be carried out in and around the mines lease by establishing a network of existing wells and installing new piezometers during the operation. The periodic monitoring (at least four times in a year: Pre- monsoon (April-May) monsoon (august), Post monsoon (November) and winter (January); once in each season) shall be carried out in consultation with the State Ground Water Board / Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar, the Central Ground Water Authority and Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.**

Compliance: Complied.

As per present practice, monitoring of ground water quality and levels of existing wells inside the ML area is done quarterly in the existing wells of Bolani and Balagoda Village and data is submitted along with compliance reports. Regular monitoring of ground water level and quality is carried out in and around 6.90 ML of Bolani Ores Mines from a network of existing wells. The data is collected four times a year as directed and the same is regularly sent along with the six-monthly EC compliance reports to Ministry of Environment, Forest & Climate Change and its Regional Office, Bhubaneswar, Central Ground Water Authority and Regional Director, Central Ground Water Board.

The report of Ground Water Level is enclosed in **Annexure – IV**.

- 13) **The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water, if any, required for the project.**

Compliance: Complied.

1. Necessary permission of competent authorities has been obtained for drawl of requisite quantity of surface water, required for the project.
2. Water Drawl agreement for drawing 7 cusec (for envisaged level of production) of surface water from Karo River and tributaries has been executed with Executive Engineer, Baitarini Division, Salapada vide agreement no. 839 Dt.21.02.2025, with validity of 01 year.
3. The average water consumption during the period is 0.6 Cusec, which is within the permitted quantity.

Presently the average consumption is well within the permitted quantity.

- 14) The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter- alia provide for (i) Standard operating process/ process to bring into focus any infringement/ deviation/ violation of the environmental or forest norms/ conditions, (ii) Hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the EC conditions and (iii) System of reporting of non- compliances / violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders.

Compliance: Complied.

The Policy towards Corporate Environmental Responsibility including details of set up have been submitted to Ministry vide our letter no RMD/ BOM/E&L/5.1sqMiles/EC/2013/91 dt 18-03-2013. Necessary steps are being taken for implementation of the same (common for the adjoining 5.10 sq. miles ML of SAIL) regularly.

SAIL has always been environmentally conscious and responsible company. Way back in 1996, it was a pioneer in adopting a Corporate Environmental Policy. In view of the rapid technological advancements in the past two decades and growing stringency of regulatory requirements, SAIL has revised its Environmental Policy and made "Corporate Environmental Vision, Policy and Responsibility", which is under implementation and copy of the same had been attached in EC compliance report for the period of Oct'15 to Mar'16 submitted vide letter no. BOM/ENV/5.1/HD-3600 Dt.30.06.2016

- 15) At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e. PM10) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

Compliance: Complied.

Four ambient air quality- monitoring stations have been established in the core zone as well as in the Buffer/Impact zone for RSPM (for particulate matter with size less than 10 micron i.e. PM10), and gaseous monitoring. The revised locations of Air quality monitoring stations have been decided in consultation with State Pollution Control Board vide our letter no CGM/B-967 dt. 24/07/2024. The details of AAQ monitoring locations are provided, as follows:-

AMBIENT AIR QUALITY MONITORING STATIONS				
SL. NO.	LOCATION	PARAMETERS MONITORED	ZONE	REMARKS
1	CISF Colony	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	CAAQMS (Online)
2	Campus Office	PM10, PM2.5, SO _x , NO _x	BUFFER/IMPACT ZONE (5.10 ML)	CAAQMS (Online)
3	JNRC	PM10, PM2.5	CORE ZONE (6.90 ML)	CAAQMS (Online)
4	Near Karo Bridge	PM10, PM2.5	CORE ZONE	CAAQMS

			(6.90 ML)	(Online)
5	Bolani Village Community Center	PM10, PM2.5, SO ₂ , NO _x & CO	CORE ZONE (6.90 ML)	AAQMS (Manual)
6	DAV Public School	PM10, PM2.5, SO ₂ , NO _x & CO	CORE ZONE (6.90 ML)	AAQMS (Manual)
7	Main Gate	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	AAQMS (Manual)
8	Bolani Mines Office Complex	PM10, PM2.5	BUFFER/IMPACT ZONE (5.10 ML)	AAQMS (Manual)
9	Limtur Village (Near Quarry-5)	PM10, PM2.5	CORE ZONE (6.90 ML)	AAQMS (Manual)
10	Karo Guest House	PM10, PM2.5	CORE ZONE (6.90 ML)	AAQMS (Manual)

The details of the Environmental parameter monitoring stations are provided in compliance status of Special Condition No. 10 above. The AAQ monitoring reports for the Compliance period are enclosed as **Annexure – II**.

- 16) **Data on Ambient Air Quality [(RSPM (Particulate matter with size less than 10 micron i.e. PM10 (PM10) and NO_x) should regularly be submitted to the Ministry including its Regional Office, Bhubaneswar and the State Pollution Control Board/ Central Pollution Control Board once in six months.**

Compliance: Complied.

At present, the data on ambient air quality (RSPM, SO₂, NO_x & CO) is regularly submitted on six-monthly basis along with the compliance status reports.

After the installation of CAAQMS system, the data on ambient air quality (PM10, PM2.5, SO₂, NO_x & CO) is being automatically uploaded to OSPCB server. The AAQ monitoring reports for the compliance period are enclosed as **Annexure – II**.

- 17) **The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.**

Compliance: Complied.

The Topsoil generated from the Quarry 5 of 50 CUM has been concurrently utilized in plantation taken up during 2024-25.

- 18) **Measures should be taken for control of noise levels below 85dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provide with ear plugs/ muffs.**

Compliance: Complied.

Manganese mining operation inside this ML is carried out manually and hence the noise generation is within limits. However, critical areas responsible for noise generation beyond the norms is duly identified and accordingly, site-specific measures pertinent to the Noise generation

source are provided to minimize the noise exposure levels. Some of the Noise control measures implemented by BOM are as follows:

1. To control unnecessary noise generation from the machineries, periodical maintenance of the equipment is carried out by the contractors.
2. All working personnel are provided with Noise Plugs as a part of standard PPE kit and Noise Isolation Earmuffs are provided to all personnel working near noise prone areas.
3. Further, to minimize the exposure of personnel deployed near Noise generating Sources, the personnel are rotated every Four hours.
4. Moreover, regular Noise level monitoring is carried out at the identified critical areas.

Additionally, regular Noise level monitoring is carried out at the identified critical areas. The noise monitoring report for the current year is enclosed in **Annexure – V**.

- 19) **Industrial waste water (workshop and waste water from mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.**

Compliance: Complied.

The following actions are taken for compliance:

- a) There is no maintenance activity of Mining Machineries is carried out inside this ML area. The contractor does the maintenance activities at his own premises. Hence, Installation of ETP is not applicable.
- b) However, washing of all the light vehicles plying inside this ML and equipment's and equipment maintenance are carried out at designated workshops and washing bays inside 5.10 Sq. Mile ML, which are provided with ETPs (Oil and Grease catch traps) to collect and treat workshop effluent. Further, revamping of these ETPs has been undertaken. Installation of one number Mechanical ETP has been completed and installation of another one is under progress.
- c) The quality of the treated water conforms to the prescribed standards.

The consolidated analysis report of Water is submitted herewith as **Annexure-IV**.

- 20) **A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.**

Compliance: Complied.

Environment Management Section (EMS) works as a separate section under the Head of Environment & Lease section for both the ML areas of BOM under direct control of Chief General Manager (Mines). The details of constitution are as follows:

Composition of Environment Management section	Qualification
General Manager (Environment & Lease), Grade- E7	(1) MSc Tech Applied Geology (2) M Tech Environmental Sc. & Engineering
Sr. Manager (E&L), Grade- E4	(1) B Tech Mining

Mining Foreman , Grade-S6	(1) Diploma (Mining)
Mining Mate , Grade-S2	(2) Graduate (Mining Mate) (3) PG Diploma in Environment & sustainable development

Necessary proposal is under process for recruitment of multidisciplinary qualified personnel's for induction into environmental management section.

- 21) **The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.**

Compliance: Complied.

1. Funds under Revenue budget is kept for jobs under repair and maintenance for jobs related to environmental protection measures in different operational areas.
 2. Funds under Capex Budget (capital nature) is allotted on case to case basis for new addition - modification after following due process of AMR – Capex approval
 3. Funds are not diverted for other purposes.
 4. Year wise expenditure is being reported to Regional Office, Bhubaneswar in annual compliance reports.
- 22) **The Project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by concerned authorities and date of start of land development work.**

Compliance: Complied.

The lease is already operating. The ML deed was executed on 09/09/2021. Mining of Manganese ore was resumed from 1st April of 2023.

- 23) **Regional office of this Ministry located at Bhubaneswar shall monitor compliance of stipulated conditions. The project authorities should extend full co-operation to the officer(s) of the Regional Office by furnishing requisite date/ information/ monitoring reports.**

Compliance: Complied.

Bolani Ores Mines has always and will continue to fully cooperate with the inspecting authorities by providing necessary data, information, and monitoring reports, and carefully looking into areas for further improvement.

- 24) **The project proponent shall submit six monthly report on the status of the compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environmental and Forests, its Regional Office, Bhubaneswar, the respective Zonal office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of**

the Ministry of Environment and Forest, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.

Compliance: Complied.

The compliance report is uploaded to the designated Parivesh portal.

1. Six-monthly compliance reports on the status of environmental safeguards are being submitted to MoEF&CC, New Delhi, the MoEF&CC Regional Office in Bhubaneswar, the Zonal office of the Central Pollution Control Board, and the State Pollution Control Board.
2. A copy of the compliance report, including Environmental Parameters Monitoring data, is uploaded to the SAIL website at www.sail.co.in.

- 25) A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestion/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

Compliance: Complied.

Copies of the clearance letter were shared with local bodies, from which valuable suggestions, representations, and feedback were received during the processing of the proposal.

- 26) The State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/ Tehsildar's Office for 30 days.

Compliance: Noted for Compliance.

The copy of the clearance letter was displayed at the State Pollution Control Board's Regional Office, the District Industry Centre, and the Collector's Office/Tehsildar's Office for a period of 30 days, as requested.

- 27) The environmental statement for each financial year ending 31st march in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of the compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.

Compliance: Complied.

Environment Statement for 2024-25 of Bolani Ores Mines was submitted vide our letter no. CGM/E&L/1480, Dated:-26/09/2024. The environment statement is uploaded on the website of the SAIL along with the status of the compliance of environmental clearance conditions and is also sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar.

- 28) The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Boards and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of the this Ministry located Bhubaneswar.

Compliance: Complied.

Advertisements regarding grant of environmental clearance was published in Odia daily SAMBADA, Bhubaneswar & Sambalpur Edition on date 27-12-2012 and Business Standard on date 27-12-2012.

- 29) The Ministry or any other competent authority may alter /modify the above conditions or stipulate any further condition in the interest of environment protection.

Compliance: Duly Noted.

The conditions will be complied, as and when stipulated.

- 30) Failure to comply with any of the condition mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

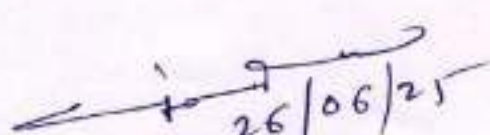
Compliance: Duly noted for compliance.

- 31) The above condition will be enforced inter-alia, under the provisions of the Water (prevention & Control of Pollution) Act, 1974, the Air (prevention and control of pollution) Act, 1981, the Environment (protection) Act, 1986 and public liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court of Orissa and any other Court of Law relating to the subject matter.

Compliance: Duly noted for compliance.

- 32) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days, as prescribed under section-16 of the National Green Tribunal Act 2010.

Compliance: Duly noted for compliance.


Chief General Manager (Mines)
Bolani Ores Mines, RSP – SAIL

जयदेव चट्टोपाध्याय/Jaydev Chattopadhyay
मुख्य महाप्रबन्धक (खान) /Chief General Manager (Mines)
रेल-आर एस पी-बोलानी जयदेव खदान
SAIL-RSP-Bolani Ores Mines
बोलानी-758037, कपराडार, ओडीशा
Bolani-758 037, Keonjhar, Odisha

ANNEXURE-I
**PHOTOGRAPHS SHOWING DIFFERENT AIR
POLLUTION CONTROL MEASURES IMPLEMENTED**



Rotating Fog Canon Installed at Lump Loading Plant



Rotating Fog Canon Installed at SSP



Fixed Sprinkler Installed at Roads Around Loading Plant



Truck Mounted Mist Canon Deployed at Near Fines Stacker



Road Sweeper Machine Deployed at Bolani Township Area



9 KL Mobile Water Tanker Deployed at Office Area

ANNEXURE-II
ANALYSIS OF AIR QUALITY MONITORING DATA



SAIL BOLANI ORES
MINES(RSP)

ENVIRONMENTAL MONITORING

REPORT

OCTOBER 2024

Presented By

**Ecomen Mining
Pvt.Ltd**



1.0 PREAMBLE

Steel Authority of India Limited (*hereinafter termed as SAIL*), is a central public sector undertaking under the ownership of Ministry of Steel, Govt. of India has engaged M/s Ecomen Mining Pvt. Ltd., Lucknow, U.P. for carrying out various **Environmental Monitoring and Analysis Work** in its Bolani Ores Mines -RSP located in the district of Keonjhar.

M/s Ecomen Mining Pvt. Ltd. has obtained MoEF & CC Recognition, NABL Accreditation and SPCB, Odisha empanelment for its laboratory division and also a NABET Accredited consultant to carry out EIA/EMP Report for various sectors like Mining, Mineral Beneficiation, Coal Washery, Thermal Power Plant, Metallurgical Industry and Infrastructure & Building Projects etc.

Work Order issued by Bolani Ores Mines-RSP-SAIL vide No-CC/REV/284/2023-24 dated.11.01.2024 for Environmental Monitoring & Analysis Work includes monitoring & analysis of Air Environment, Water Environment, Land Environment such as Ambient Air Quality, Work Zone Air Quality, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. This report presents the Environmental monitoring data collected from the core and buffer zone of Bolani Ores Mines in respect of following Environmental attributes during '**October-2024**' in the given frequency. Further, in compliance of condition no 6 (vi) of the EC Grant order vide J/11015/418/2008-IA.II(M) dated. 21.12.2012 and condition no 7 A(iii) of EC Grant order vide J/11015/396/2008-IA.II(M) dated. 21.12.2012 the analysis of air quality monitoring data is done in this report with the objective to see the effectiveness of the mitigative measures already implemented.

Scope of the Work

The scope of work as per the work order for FY-2024-25 is as follows:

Table No. 1.1: Scope of Work

Sl. No.	Particulates	Frequency of monitoring	No. of Stations
1.	Sampling & Analyses for Ambient Air Quality(AAQ) for 5 Parameters i.e. PM 10, PM 2.5, SO ₂ ,NO _x & CO	Daily	04
2.	Sampling & Analyses for Ambient Air Quality (AAQ) for 2 Parameters i.e. PM 10, PM 2.5	Daily	02
3.	Sampling & Analyses of Fugitive dust/Emission (SPM & RSPM)	Daily	10
4.	Sampling & Analyses of Surface/ effluent/ drinking water Quality for 21 parameter	Monthly	08
5.	Sampling and Analyses of ground water quality for 21 parameters	Quarterly	03
6.	Sampling and Analyses of Soil Samples for specified 9 parameters	Yearly	06
7.	Monitoring of weather/meteorological Parameters and continuous generation of data daily round the year by	Daily	01

	establishing online station round the clock throughout the Year		
8.	Smoke Density Monitoring of Vehicular Exhaust	Annually	09
9.	Ground water level Monitoring	Quarterly	03
10.	Nallah/River Flow rate Monitoring	Monthly	03

2.0 DETAILS OF MONITORING/SAMPLING STATIONS:

To carry out the Environmental Data Generation program, ECOMEN in due consultation with SAIL has identified different locations to collect the samples for Air & Water Environment in and around the mining lease area. The details of stations identified are as follows. The details of locations identified for monitoring different environmental parameters are given in the subsequent sections.

2.1 Ambient Air Quality (A)

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. Out of six (06) locations, monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) as (NO₂) and Carbon Monoxide (CO) at (4) Location and monitoring of Particulate Matter (PM₁₀) and Particulate Matter (PM_{2.5}) was carried out at the rest two (2) Locations as per the guidelines stipulated by Central Pollution Control Board. The locations are as given below.

Table No. 2.1: Details of AAQ Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
Ambient Air Quality (AAQ) for 5 Parameters i.e. PM ₁₀ , PM _{2.5} , SO ₂ ,NOx & CO						
1	Bolani Village Community Center	6.90	Daily	A1	22°5'34.13"N	85°19'33.43"E
2	DAV Public School	6.90		A2	22°7'7.37"N	85°20'16.61"E
3	Main Gate	5.10		A3	22°6'18.18"N	85°19'47.27"E
4	Bolani Mines Office complex	5.10		A4	22°6'23.84"N	85°19'45.40"E
Ambient Air Quality (AAQ) for 2 Parameters i.e. PM ₁₀ , PM _{2.5}						
5	Limtur Village	6.90		A5	22°7'35.14"N	85°21'10.46"E
6	Karo Guest House	6.90		A6	22°05'36.38"N	85°20'32.38"E

2.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring (F)

To assess the level of fugitive dust due to mining and allied activities, ten (10) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out on Daily Basis. The locations are as given below.

Table No. 2.2: Details of Fugitive Emission Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
1	Panposh	5.10	Daily	F1	22°6'41.46"N	85°19'41.60"E
2	D Area	5.10		F2	22°07'19.78"N	85°20'5.70"E
3	F Area	5.10		F3	22°05'45.19"N	85°18'21.95"E
4	G Area	5.10		F4	22°06'3.88"N	85°18'8.22"E
5	Lump Loading Point (near 600TPH)	6.90		F5	22°06'18.79"N	85°19'54.78"E
6	Fines Loading Plant	6.90		F6	22°05'51.12"N	85°19'45.79"E
7	Dump Fines handling route	6.90		F7	22°5'39.31"N	85°19'26.29"E
8	SSP	5.10		F8	22°06'13.80"N	85°19'12.52"E
9	Dump Fines Handling Site	5.10		F9	22°06'09.94"N	85°19'30.61"E
10	Mn Quarry	6.90		F10	22°07'23.56"N	85°21'8.86"E

2.3 Surface/Effluent/Drinking Water Quality:

In order to assess the quality of surface/effluent/drinking water, Eight (8) locations were identified in and around the ML area. Out of eight (8) locations, surface water was taken from four (4) locations, drinking water was taken from two (2) locations and effluent water was taken from two (2) locations. One grab sample was collected from each location in the month and was analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.3: Details of Surface/Effluent/Drinking Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Surface Water Quality				
Panposh Nallah	Monthly Once	SWQ-1	22°6'31.68"N	85°19'34.41"E
Karo Near Lease Boundary		SWQ-2	22°7'26.27" N	85°21'52.95"E

Karo River Intake		SWQ-3	22°5.13.02' N	85°19'57.88''E
Jhikaria nallah before joining Karo		SWQ-4	22°5'22.50'' N	85°19'10.05''E
Drinking Water Quality				
Mount Club Tap Water	Monthly Once	DW-1	22°6'56.24'' N	85°19'58.21''E
Karo Guest House Tap Water		DW-2	22°5'36.68'' N	85°20'32.09''E
Effluent Waste Water				
Oil Catch Pit Water Bottom Garage	Monthly Once	EWQ-1	22°6'27.11'' N	85°19'37.62''E
Oil Catch pit water G-Area		EWQ-2	22°6'1.83''N	85°18'24.16''E

2.4 Ground Water Quality (GWQ)

In order to assess the quality of ground water, three (3) locations were identified in and around the mining lease area. One grab sample is collected from each location quarterly and analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.4: Details of Ground Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Ground Water Quality				
Bolani Village-Well water	Quarterly	GWQ-1	22° 05' 27.20"N	85° 19'27.13"E
Bolani Gouda Basti-Well water		GWQ-2	22° 05'40.97"N	85° 20'2.45"E
Balagoda Village-Well water		GWQ-3	22° 05'57.02"N	85° 20'27.41"E

2.5 Weather/Meteorology

An Automatic Weather Monitoring Station (AWS) is installed at DAV Public School (22°7'7.85''N; 85°20'16.83''E) to collect the meteorological data on daily basis continuously. The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

Table No. 2.5: Details of Meteorological Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
DAV Public School	Daily Basis	M	22°7'7.85''N	85°20'16.83''E

SAIL BOLANI ORES MINES
AOC and Fugitive Monitoring Location Along with ML Boundary

Google Earth

G Area
Dump Piles Handling Site
Main Gate
D Area
Duro Piles Handling House
Bolan Mines Office Compound
Bolan Village Community Center
Karsa Guest House

Legend
AOC Monitoring Station
Fugitive Monitoring Station

3.0 RESULTS AND DISCUSSION

3.1 Ambient Air Quality Monitoring

The Summarized results of AAQ for the month of OCTOBER-2024 are given in the Table below

Table No. 3.1 (a): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	PM ₁₀			PM _{2.5}		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community center	A1	74.53	55.42	64.36	34.95	25.59	30.89
2.	Dav Public School	A2	68.00	51.01	59.25	27.24	18.65	22.81
3.	Main Gate	A3	78.90	60.55	68.35	37.70	28.77	33.14
4.	Bolani Mines Office Complex	A4	72.62	54.03	63.85	31.76	22.19	28.03
5.	Limtur Village	A5	62.97	45.62	54.55	24.88	15.04	19.82
6.	Karo Guest House	A6	58.72	40.25	49.80	21.96	12.03	16.98
CPCB Std.			100 µg/m ³			60 µg/m ³		

Table No. 3.1(b): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	SO ₂			NO _x		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	24.92	15.09	18.91	22.32	13.17	18.02
2.	Dav Public School	A2	22.70	13.63	17.96	19.53	10.28	15.15
3.	Main Gate	A3	25.88	16.31	20.62	24.00	14.07	18.53
4.	Bolani Mines Office Complex	A4	23.80	14.35	20.09	21.84	12.01	16.90
CPCB Std.			80 µg/m ³			80 µg/m ³		

BDL of SO₂ ≤ 4 µg/m³, BDL of NO_x ≤ 9 µg/m³ (NO_x as NO₂)

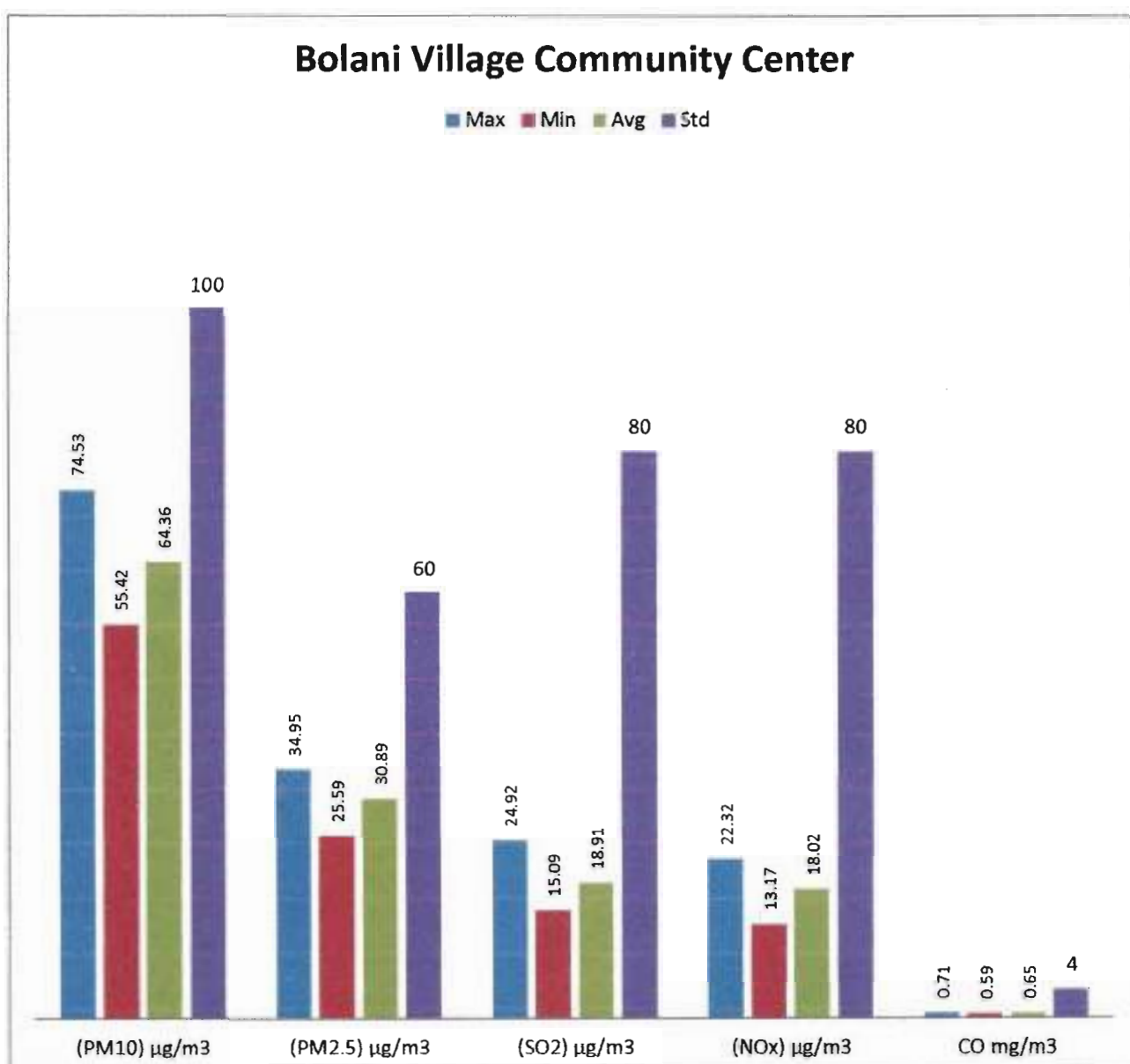
Table No. 3.1(c): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	CO		
			Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	0.71	0.59	0.65
2.	Dav Public School	A2	0.64	0.54	0.59
3.	Main Gate	A3	0.75	0.63	0.68
4.	Bolani Mines Office Complex	A4	0.64	0.52	0.59
CPCB Std.			4 mg/m ³		

Note: BDL value for CO-0.11 mg/m³

3.1.1 Bolani village Community Center (A1):

The pollution level in Bolani village Community Center for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed 74.53 µg/m³ whereas minimum concentration was observed 55.42 µg/m³ during the month. PM_{2.5} concentration ranges between 22.59 µg/m³ to 34.95 µg/m³, SO₂ concentration ranges between 15.09 µg/m³ to 24.92 µg/m³, NO_x as (NO₂) concentration ranges between 13.17 µg/m³ to 22.32 µg/m³ and CO concentration ranges between 0.59 mg/m³ to 0.71 mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & GPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/43

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines , At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-1: Bolani village Community Center
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.10.2024	68.31	33.48	15.32	17.44	0.64
2.	02.10.2024	63.63	33.45	21.68	19.05	0.65
3.	03.10.2024	58.78	33.92	17.07	19.59	0.60
4.	04.10.2024	55.56	28.26	24.62	21.47	0.71
5.	05.10.2024	70.01	27.25	17.54	16.78	0.60
6.	06.10.2024	56.84	34.95	15.17	20.89	0.68
7.	07.10.2024	62.38	25.59	20.34	15.71	0.70
8.	08.10.2024	64.97	32.17	18.20	14.91	0.59
9.	09.10.2024	74.53	27.97	17.21	15.12	0.62
10.	10.10.2024	72.98	33.51	19.98	13.53	0.61
11.	11.10.2024	71.60	30.05	18.37	20.48	0.63
12.	12.10.2024	68.87	26.08	20.70	21.83	0.70
13.	13.10.2024	59.10	29.61	21.71	18.19	0.66
14.	14.10.2024	68.86	25.95	21.02	18.23	0.62
15.	15.10.2024	55.42	31.80	15.76	15.68	0.66
16.	16.10.2024	64.10	34.33	24.92	13.17	0.64
17.	17.10.2024	55.84	26.22	16.15	18.88	0.65
18.	18.10.2024	63.62	30.44	17.24	21.39	0.64
19.	19.10.2024	57.74	33.78	20.36	21.89	0.69
20.	20.10.2024	67.94	29.34	15.75	15.66	0.66
21.	21.10.2024	70.25	28.54	19.19	19.91	0.71
22.	22.10.2024	62.53	33.25	15.77	16.08	0.64
23.	23.10.2024	72.85	29.58	15.09	18.82	0.61
24.	24.10.2024	72.18	30.46	15.24	16.58	0.68
25.	25.10.2024	65.33	33.58	18.02	21.99	0.65
26.	26.10.2024	65.83	34.89	22.24	18.64	0.61
27.	27.10.2024	61.78	27.84	22.42	17.66	0.65
28.	28.10.2024	57.90	34.61	23.24	22.32	0.70
29.	29.10.2024	58.36	31.18	17.63	17.01	0.61
30.	30.10.2024	62.44	30.91	18.69	16.27	0.66
31.	31.10.2024	64.57	34.49	19.66	13.56	0.62
Average		64.36	30.89	18.91	18.02	0.65

Note- No_x is Given as No₂

-----End of Report-----

Verified By

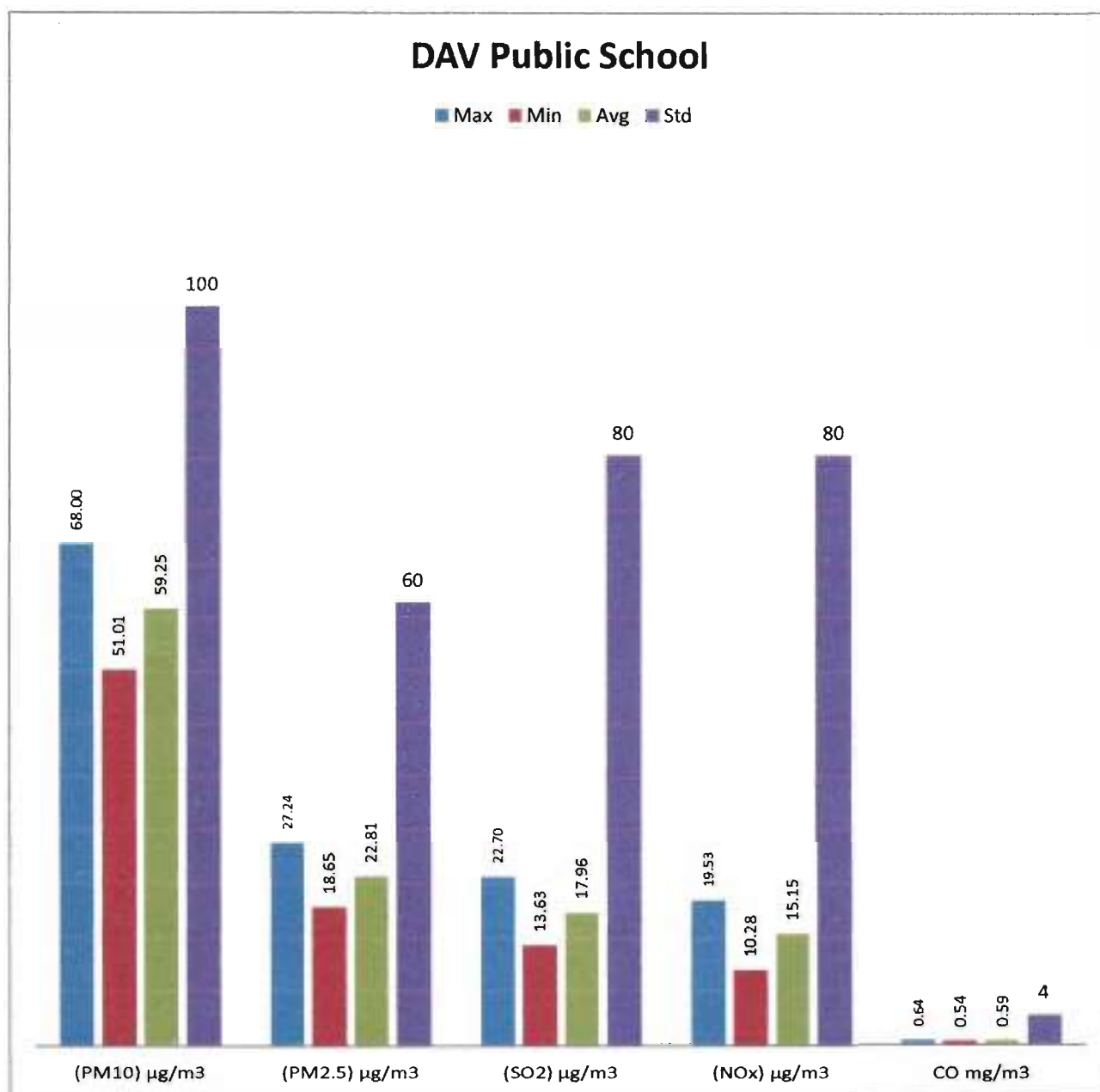
Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

3.1.2 DAV Public School (A2):

The pollution level in DAV Public School for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **68.00** µg/m³ whereas minimum concentration was observed **51.01** µg/m³ during the month. PM_{2.5} concentration ranges between **18.65** µg/m³ to **27.24** µg/m³, SO₂ concentration ranges between **13.63** µg/m³ to **22.70** µg/m³, NO_x as (NO₂) concentration ranges between **10.28** µg/m³ to **19.53** µg/m³ and CO concentration ranges between **0.54** mg/m³ to **0.64** mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/44

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-2: DAV Public School
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.10.2024	65.77	19.55	18.39	17.69	0.59
2.	02.10.2024	67.89	21.49	16.81	15.10	0.58
3.	03.10.2024	51.62	27.24	16.14	14.29	0.60
4.	04.10.2024	52.34	19.47	18.57	12.22	0.58
5.	05.10.2024	66.31	27.19	18.02	13.25	0.62
6.	06.10.2024	54.20	25.39	15.68	17.83	0.55
7.	07.10.2024	60.52	20.94	22.70	10.28	0.59
8.	08.10.2024	54.49	19.80	14.92	17.84	0.58
9.	09.10.2024	51.01	27.18	22.64	14.89	0.64
10.	10.10.2024	61.40	24.26	16.43	12.98	0.57
11.	11.10.2024	68.00	22.05	14.04	17.54	0.54
12.	12.10.2024	57.31	25.30	16.54	11.41	0.62
13.	13.10.2024	66.71	26.61	20.00	18.08	0.61
14.	14.10.2024	55.56	20.64	22.13	17.38	0.58
15.	15.10.2024	54.09	25.04	16.67	18.69	0.63
16.	16.10.2024	54.63	19.99	19.60	14.59	0.56
17.	17.10.2024	62.21	21.32	16.08	15.30	0.61
18.	18.10.2024	59.17	23.26	16.64	14.03	0.63
19.	19.10.2024	60.40	20.69	22.34	19.03	0.58
20.	20.10.2024	59.20	25.25	22.47	15.52	0.56
21.	21.10.2024	57.97	22.35	13.63	16.24	0.58
22.	22.10.2024	67.25	22.62	14.49	15.77	0.64
23.	23.10.2024	51.13	22.80	19.54	19.29	0.60
24.	24.10.2024	63.48	18.65	15.91	19.53	0.58
25.	25.10.2024	52.30	22.48	18.59	13.33	0.63
26.	26.10.2024	64.60	22.58	15.09	10.56	0.64
27.	27.10.2024	59.82	23.05	22.37	13.20	0.64
28.	28.10.2024	52.80	22.30	14.20	12.42	0.59
29.	29.10.2024	63.34	22.44	19.88	13.93	0.55
30.	30.10.2024	66.75	24.89	20.98	11.37	0.56
31.	31.10.2024	54.37	20.32	15.17	16.14	0.59
Average		59.25	22.81	17.96	15.15	0.59

Note- NO_x is Given as NO₂

----End of Report----

Verified By

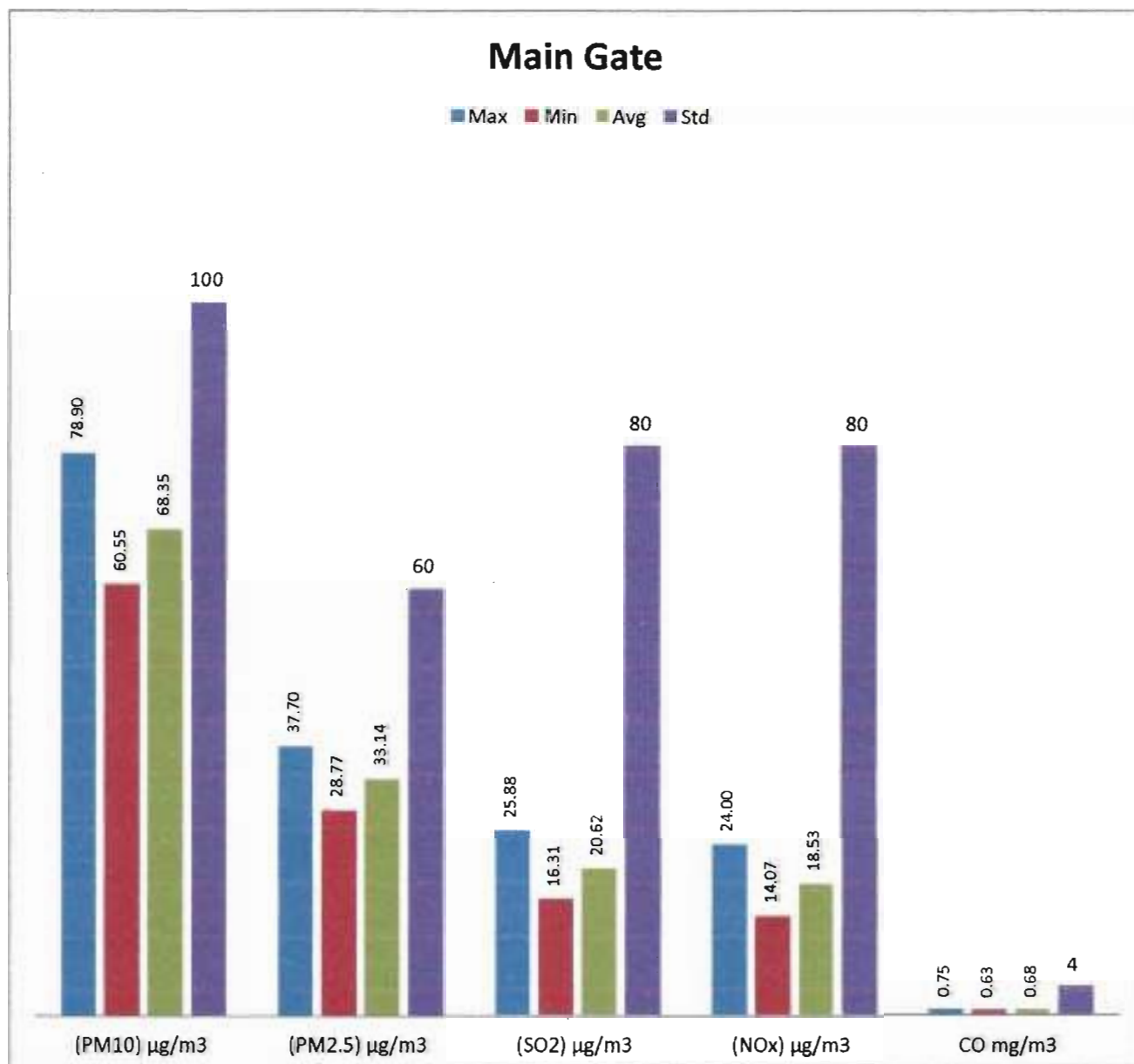
Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

3.1.3 Main Gate (A3):

The pollution level in Main Gate for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **78.90** µg/m³ whereas minimum concentration was observed **60.55** µg/m³ during the month. PM_{2.5} concentration ranges between **28.77** µg/m³ to **37.70** µg/m³, SO₂ concentration ranges between **16.31** µg/m³ to **25.88** µg/m³, NO_x as (NO₂) concentration ranges between **14.07** µg/m³ to **24.00** µg/m³ and CO concentration ranges between **0.63** mg/m³ to **0.75** mg/m³ was observed during the month





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/45

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-3: Main Gate
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.10.2024	62.40	35.90	20.62	20.47	0.64
2.	02.10.2024	68.65	31.19	17.02	14.07	0.64
3.	03.10.2024	64.89	33.23	20.16	19.52	0.67
4.	04.10.2024	66.82	35.11	18.24	22.28	0.72
5.	05.10.2024	68.35	37.70	19.03	15.00	0.71
6.	06.10.2024	74.06	36.10	21.03	15.90	0.67
7.	07.10.2024	66.61	35.64	23.95	19.50	0.63
8.	08.10.2024	63.21	35.03	22.86	20.76	0.69
9.	09.10.2024	70.95	32.81	24.23	22.25	0.70
10.	10.10.2024	66.22	36.64	21.84	21.11	0.64
11.	11.10.2024	76.01	36.76	17.65	17.23	0.65
12.	12.10.2024	66.47	36.58	16.31	19.39	0.65
13.	13.10.2024	63.66	31.07	16.38	20.63	0.65
14.	14.10.2024	64.53	34.96	21.50	23.91	0.74
15.	15.10.2024	64.47	29.43	17.83	16.41	0.70
16.	16.10.2024	60.55	31.74	22.11	24.00	0.66
17.	17.10.2024	71.10	30.19	21.27	15.15	0.66
18.	18.10.2024	70.52	28.77	21.79	19.01	0.65
19.	19.10.2024	66.02	32.59	16.81	19.08	0.71
20.	20.10.2024	66.63	32.27	25.88	15.63	0.65
21.	21.10.2024	72.72	31.36	18.47	14.80	0.66
22.	22.10.2024	63.81	33.54	22.20	17.23	0.69
23.	23.10.2024	78.90	36.04	24.78	14.43	0.70
24.	24.10.2024	77.37	32.00	18.38	21.71	0.73
25.	25.10.2024	60.85	29.48	17.63	14.99	0.75
26.	26.10.2024	77.68	31.59	23.54	14.13	0.75
27.	27.10.2024	72.34	33.08	22.37	17.86	0.63
28.	28.10.2024	67.70	34.51	17.51	19.72	0.67
29.	29.10.2024	78.02	33.12	22.06	21.33	0.70
30.	30.10.2024	63.42	29.99	25.71	20.03	0.69
31.	31.10.2024	63.83	28.99	20.19	16.77	0.69
Average		68.35	33.14	20.62	18.53	0.68

Note- No_x is Given as NO₂

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

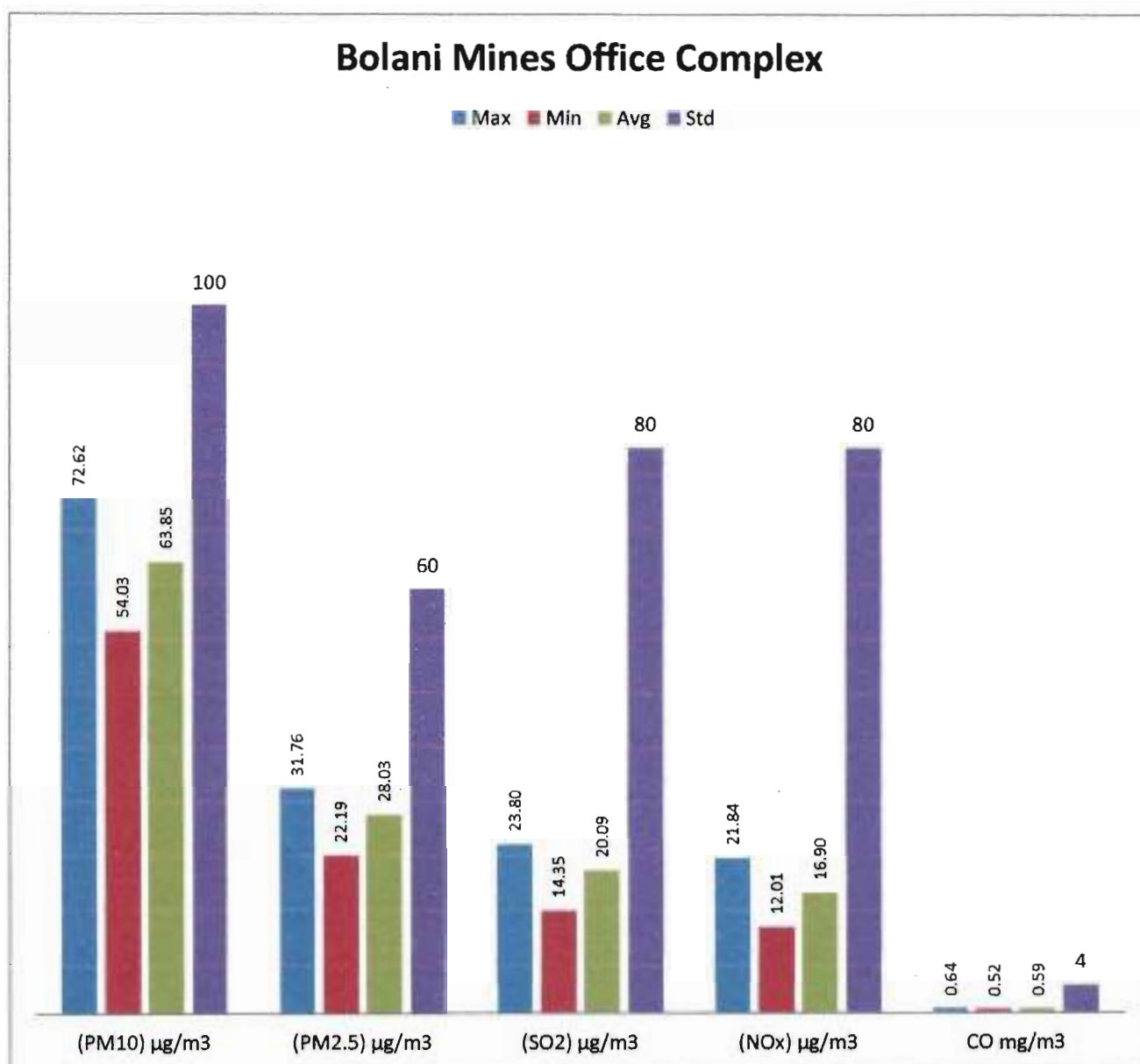
Authorized By

Quality Manager
(Abhishek Kumar Singh)

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3.1.4 Bolani Mines Office Complex (A4):

The pollution level in Bolani Mines Office Complex for the parameters PM_{10} , $PM_{2.5}$, SO_2 , NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed $72.62 \mu\text{g}/\text{m}^3$ whereas minimum concentration was observed $54.03 \mu\text{g}/\text{m}^3$ during the month. $PM_{2.5}$ concentration ranges between $22.19 \mu\text{g}/\text{m}^3$ to $31.76 \mu\text{g}/\text{m}^3$, SO_2 concentration ranges between $14.35 \mu\text{g}/\text{m}^3$ to $23.80 \mu\text{g}/\text{m}^3$, NO_x as (NO_2) concentration ranges between $12.01 \mu\text{g}/\text{m}^3$ to $21.84 \mu\text{g}/\text{m}^3$ and CO concentration ranges between $0.52 \text{ mg}/\text{m}^3$ to $0.64 \text{ mg}/\text{m}^3$ was observed during the month





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/46

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-4: Bolani Mines Office Complex
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.10.2024	70.12	28.76	21.93	13.05	0.57
2.	02.10.2024	59.30	29.48	17.53	21.84	0.53
3.	03.10.2024	65.71	22.75	22.46	16.83	0.60
4.	04.10.2024	60.63	28.12	23.61	13.69	0.59
5.	05.10.2024	56.97	26.45	18.02	12.08	0.60
6.	06.10.2024	63.96	29.17	21.15	20.27	0.57
7.	07.10.2024	68.76	30.49	19.64	15.07	0.60
8.	08.10.2024	67.69	27.95	19.04	16.36	0.64
9.	09.10.2024	66.93	22.34	14.35	16.25	0.63
10.	10.10.2024	65.54	27.23	18.73	20.68	0.62
11.	11.10.2024	65.19	31.22	23.21	17.66	0.64
12.	12.10.2024	67.92	27.55	15.55	21.04	0.63
13.	13.10.2024	56.59	28.21	20.13	12.78	0.63
14.	14.10.2024	58.96	24.69	22.68	20.75	0.58
15.	15.10.2024	63.54	29.19	20.92	17.89	0.57
16.	16.10.2024	72.62	27.94	23.80	20.28	0.57
17.	17.10.2024	71.52	25.26	23.01	12.04	0.62
18.	18.10.2024	67.43	22.19	23.44	17.90	0.62
19.	19.10.2024	58.43	30.42	20.04	15.85	0.56
20.	20.10.2024	56.43	22.72	21.72	16.29	0.62
21.	21.10.2024	61.77	31.25	16.66	21.05	0.64
22.	22.10.2024	54.03	24.82	18.87	15.03	0.57
23.	23.10.2024	62.48	31.19	21.00	15.52	0.61
24.	24.10.2024	71.53	28.76	22.64	16.65	0.59
25.	25.10.2024	60.05	30.22	19.17	19.75	0.56
26.	26.10.2024	54.09	31.76	19.09	17.64	0.60
27.	27.10.2024	64.69	26.77	17.88	12.46	0.58
28.	28.10.2024	70.47	30.52	19.77	21.17	0.54
29.	29.10.2024	70.83	29.34	14.92	17.90	0.53
30.	30.10.2024	70.90	31.29	23.79	16.19	0.57
31.	31.10.2024	54.20	30.74	17.92	12.01	0.52
Average		63.85	28.03	20.09	16.90	0.59

Note- No_x is Given as No₂

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

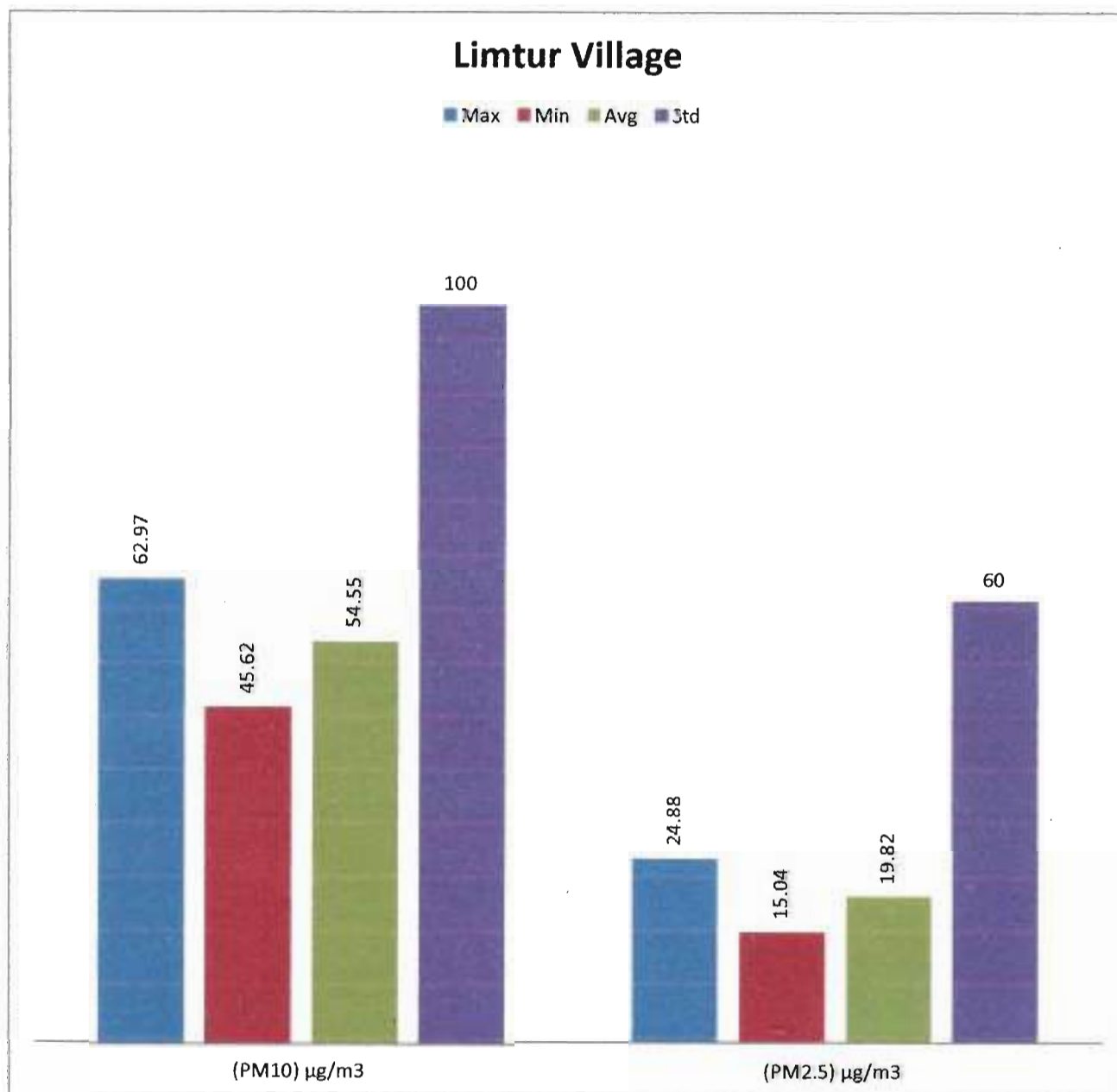
Authorized By

Quality Manager
(Abhishek Kumar Singh)

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3.1.5 Limtur Village (A5):

The pollution level in Limtur Village for the parameters PM_{10} and $PM_{2.5}$ is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed $62.97 \mu\text{g}/\text{m}^3$ whereas minimum concentration was observed $45.62 \mu\text{g}/\text{m}^3$ and $PM_{2.5}$ concentration ranges between $15.04 \mu\text{g}/\text{m}^3$ to $24.88 \mu\text{g}/\text{m}^3$ during the month.





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/47

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-5: Limtur Village
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.10.2024	58.10	22.97
2.	02.10.2024	54.58	16.16
3.	03.10.2024	47.44	24.88
4.	04.10.2024	47.83	17.04
5.	05.10.2024	60.73	18.64
6.	06.10.2024	60.28	24.23
7.	07.10.2024	46.46	24.10
8.	08.10.2024	56.88	17.28
9.	09.10.2024	62.97	17.19
10.	10.10.2024	49.74	20.76
11.	11.10.2024	50.21	18.29
12.	12.10.2024	47.26	20.30
13.	13.10.2024	54.17	22.85
14.	14.10.2024	54.05	16.53
15.	15.10.2024	54.87	24.20
16.	16.10.2024	53.36	20.07
17.	17.10.2024	52.65	15.85
18.	18.10.2024	49.05	21.54
19.	19.10.2024	54.73	16.83
20.	20.10.2024	62.00	19.98
21.	21.10.2024	62.69	22.06
22.	22.10.2024	62.82	15.94
23.	23.10.2024	51.75	18.30
24.	24.10.2024	57.46	23.24
25.	25.10.2024	47.82	21.04
26.	26.10.2024	60.70	16.13
27.	27.10.2024	45.62	23.58
28.	28.10.2024	50.44	15.04
29.	29.10.2024	52.76	24.28
30.	30.10.2024	59.96	19.54
31.	31.10.2024	61.52	15.60
Average		54.54	19.82

---End of Report---

Verified By

Technical Manager
(Vikas Kumar)

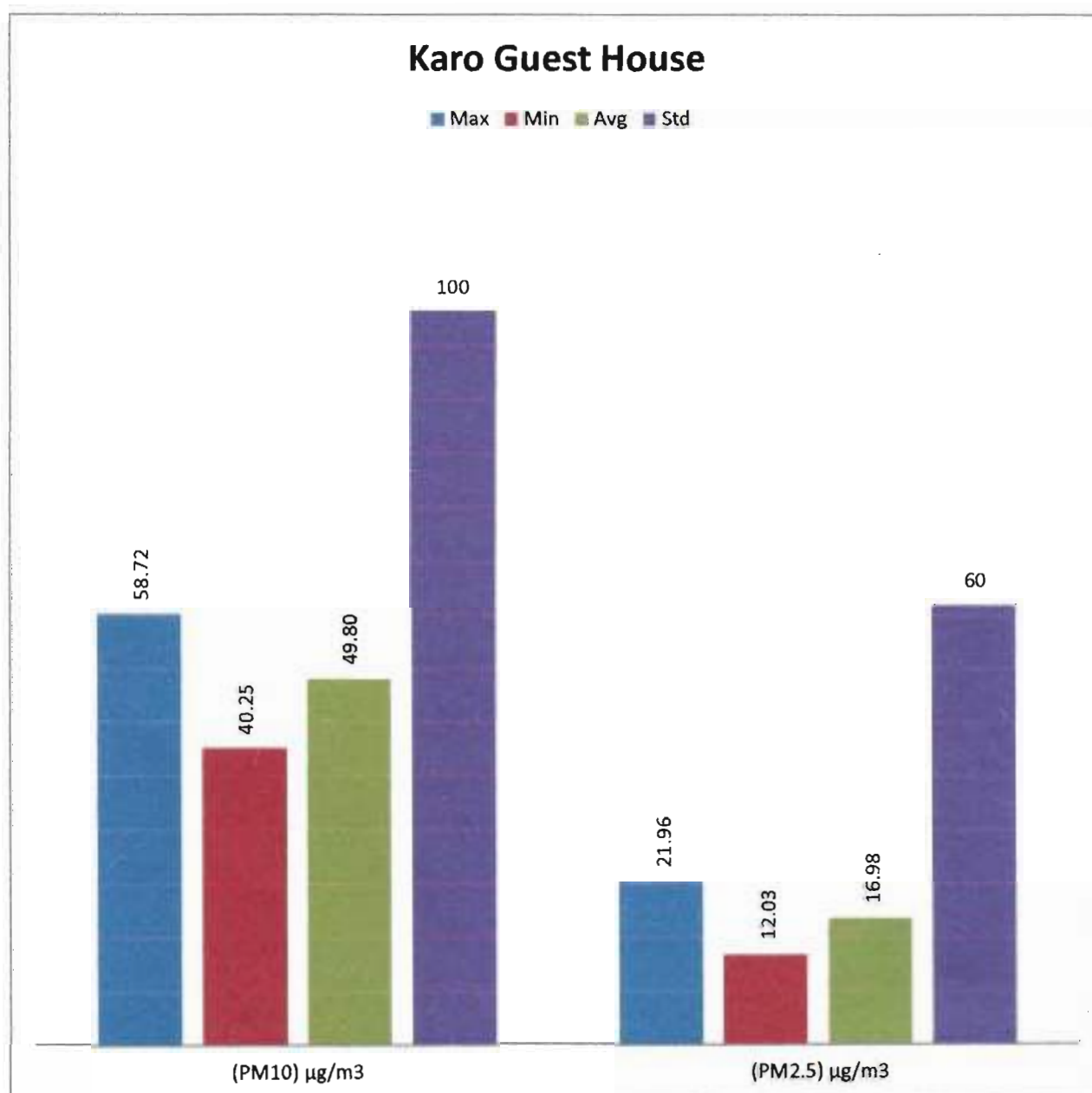
Authorized By

Quality Manager
(Abhishek Kumar Singh)

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3.1.6 Karo Guest House (A6):

The pollution level in Karo Guest House for the parameters PM_{10} and $PM_{2.5}$ is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed $58.72 \mu\text{g}/\text{m}^3$ whereas minimum concentration was observed $40.25 \mu\text{g}/\text{m}^3$ and $PM_{2.5}$ concentration ranges between $12.03 \mu\text{g}/\text{m}^3$ to $21.96 \mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/48

Test Report Issue date: 05.11.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-6: Karo Guest House
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.10.2024	57.10	14.81
2.	02.10.2024	47.57	20.01
3.	03.10.2024	54.24	12.18
4.	04.10.2024	43.89	17.59
5.	05.10.2024	47.41	12.17
6.	06.10.2024	50.12	14.19
7.	07.10.2024	44.24	12.03
8.	08.10.2024	47.68	12.41
9.	09.10.2024	50.15	12.52
10.	10.10.2024	40.25	16.22
11.	11.10.2024	58.72	17.22
12.	12.10.2024	47.98	20.85
13.	13.10.2024	46.67	17.67
14.	14.10.2024	45.93	20.80
15.	15.10.2024	58.40	15.56
16.	16.10.2024	46.67	20.18
17.	17.10.2024	52.45	18.24
18.	18.10.2024	57.05	15.17
19.	19.10.2024	57.98	21.30
20.	20.10.2024	48.33	21.96
21.	21.10.2024	41.60	12.18
22.	22.10.2024	45.55	17.99
23.	23.10.2024	54.70	18.39
24.	24.10.2024	56.76	21.62
25.	25.10.2024	56.03	18.57
26.	26.10.2024	48.08	15.09
27.	27.10.2024	49.58	20.16
28.	28.10.2024	44.77	19.19
29.	29.10.2024	54.76	15.53
30.	30.10.2024	45.26	14.95
31.	31.10.2024	43.97	19.77
Average		49.80	16.98

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

Page 18 of 52

3.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring:

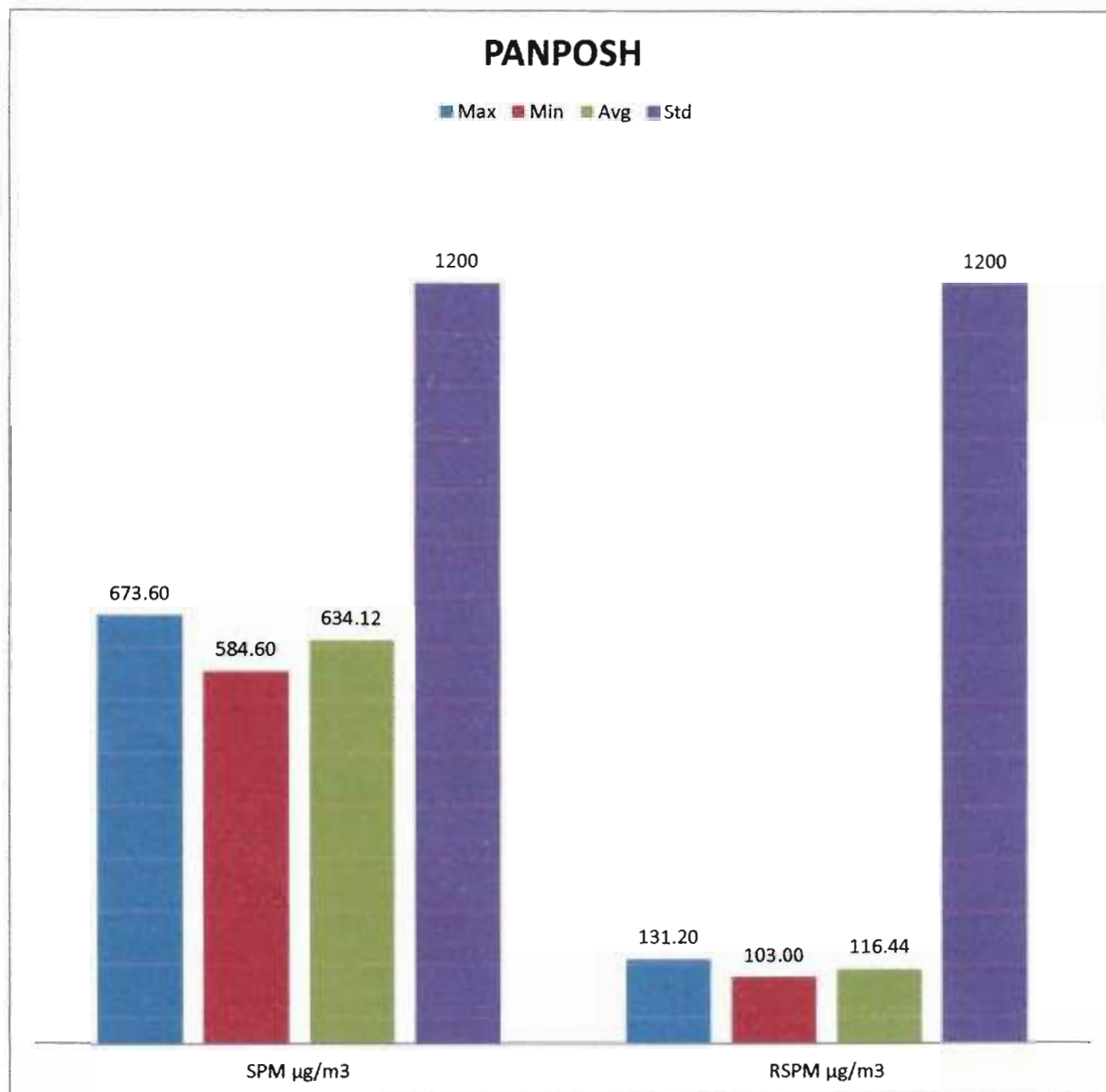
The Summarized results of Work Zone Air Quality/Fugitive Dust Emission for the month of OCTOBER-2024 are given in the Table below

Table No. 3.2: Summarized Results of Work Zone Air Quality/Fugitive Dust Emission

Sl. No.	Location Name	Station Code	SPM $\mu\text{g}/\text{m}^3$			RSPM $\mu\text{g}/\text{m}^3$		
			Max.	Min.	Avg.	Max.	Min	Avg.
1.	Panposh	F1	673.60	584.60	634.12	131.20	103.00	116.44
2.	D Area	F2	672.89	589.34	635.03	131.60	103.03	117.83
3.	F Area	F3	669.92	590.19	628.32	132.56	101.25	117.29
4.	G Area	F4	672.95	584.97	619.11	130.82	103.15	115.49
5.	Lump Loading Point (near 600TPH)	F5	672.57	588.52	626.26	130.71	103.65	116.19
6.	Fines Loading Plant	F6	672.86	592.09	633.34	132.70	104.39	117.21
7.	Dump Fines handling route	F7	671.04	585.64	623.85	127.17	103.61	115.44
8.	SSP	F8	663.40	585.56	621.34	130.36	101.59	115.35
9.	Dump Fines Handling Site	F9	670.55	584.30	624.20	128.93	102.11	114.40
10.	Mn Quarry	F10	668.48	584.71	624.50	131.23	104.00	116.28
As Per CTO Std.			1200 $\mu\text{g}/\text{m}^3$					

3.2.1 Panposh (F1):

The pollution level in Panposh Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **673.60** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **584.60** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **103.00** $\mu\text{g}/\text{m}^3$ to **131.20** $\mu\text{g}/\text{m}^3$ during the month.





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/71

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Panposh**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Panposh	659.5	125.1
2.	02-10-2024	Panposh	595.9	111.0
3.	03-10-2024	Panposh	640.6	122.5
4.	04-10-2024	Panposh	654.0	118.2
5.	05-10-2024	Panposh	623.4	109.2
6.	06-10-2024	Panposh	629.0	120.6
7.	07-10-2024	Panposh	618.7	116.0
8.	08-10-2024	Panposh	662.1	121.3
9.	09-10-2024	Panposh	643.9	115.2
10.	10-10-2024	Panposh	616.9	112.3
11.	11-10-2024	Panposh	638.2	114.4
12.	12-10-2024	Panposh	666.6	123.2
13.	13-10-2024	Panposh	612.6	118.1
14.	14-10-2024	Panposh	659.9	117.5
15.	15-10-2024	Panposh	589.7	106.3
16.	16-10-2024	Panposh	626.6	119.1
17.	17-10-2024	Panposh	633.0	119.9
18.	18-10-2024	Panposh	584.6	103.6
19.	19-10-2024	Panposh	618.2	105.2
20.	20-10-2024	Panposh	638.7	123.9
21.	21-10-2024	Panposh	671.4	117.8
22.	22-10-2024	Panposh	659.5	116.3
23.	23-10-2024	Panposh	658.9	131.2
24.	24-10-2024	Panposh	593.4	109.4
25.	25-10-2024	Panposh	673.6	120.9
26.	26-10-2024	Panposh	669.5	116.6
27.	27-10-2024	Panposh	610.5	112.5
28.	28-10-2024	Panposh	657.9	113.3
29.	29-10-2024	Panposh	586.0	103.0
30.	30-10-2024	Panposh	640.1	122.1
31.	31-10-2024	Panposh	624.7	124.0
Average			634.12	116.44

---End of Report---

Verified By

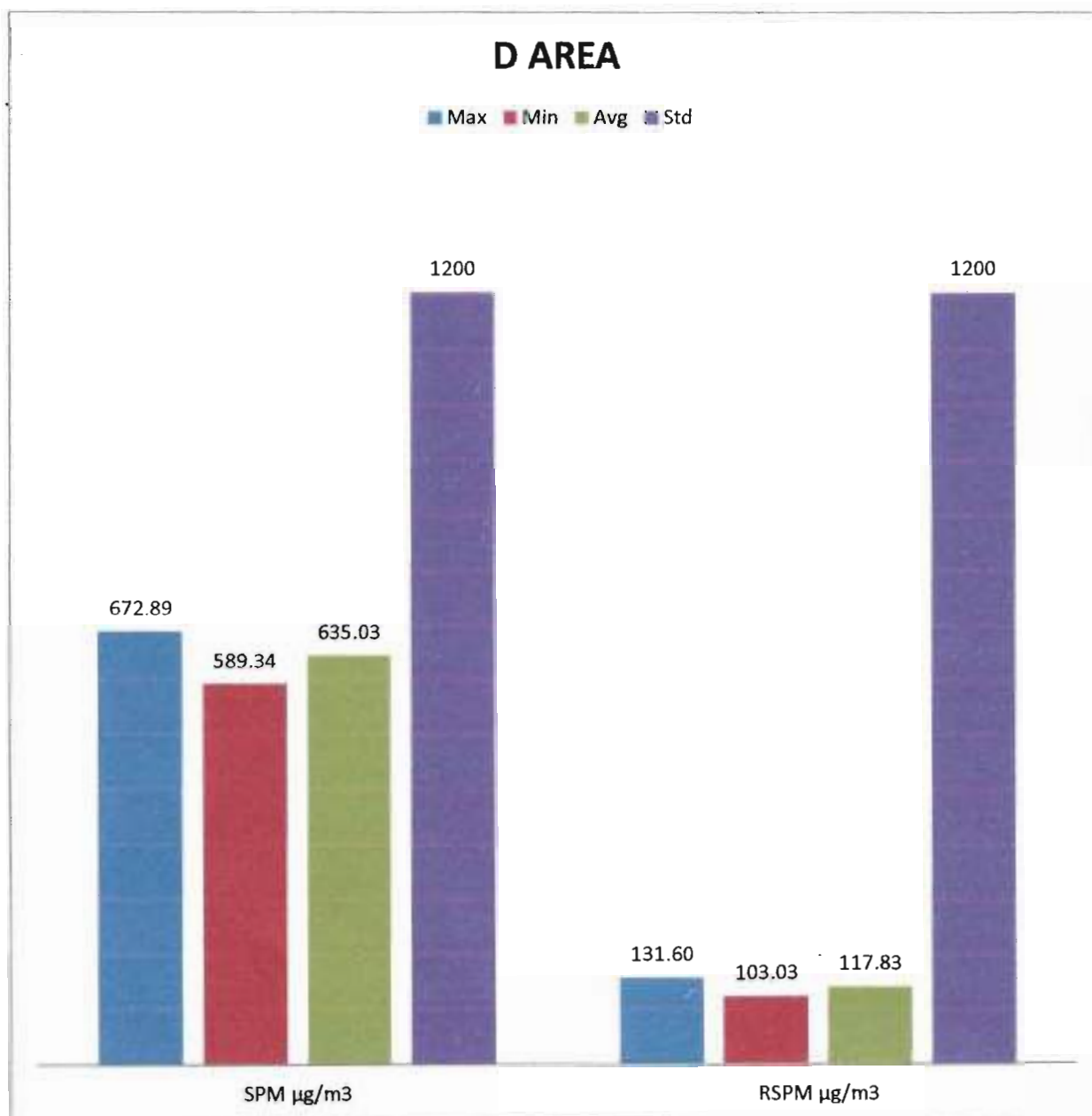
Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

3.2.2 D Area(F2)

The pollution level in D Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **672.89 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **589.34 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **103.03 $\mu\text{g}/\text{m}^3$** to **131.60 $\mu\text{g}/\text{m}^3$** during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/72

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : D Area
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	D Area	617.70	118.22
2.	02-10-2024	D Area	667.10	119.52
3.	03-10-2024	D Area	594.16	108.78
4.	04-10-2024	D Area	589.34	115.84
5.	05-10-2024	D Area	625.69	118.55
6.	06-10-2024	D Area	645.26	111.76
7.	07-10-2024	D Area	662.77	118.84
8.	08-10-2024	D Area	609.40	115.70
9.	09-10-2024	D Area	659.16	113.97
10.	10-10-2024	D Area	610.17	119.13
11.	11-10-2024	D Area	615.02	117.92
12.	12-10-2024	D Area	657.01	115.55
13.	13-10-2024	D Area	626.10	118.04
14.	14-10-2024	D Area	672.89	131.60
15.	15-10-2024	D Area	629.39	109.67
16.	16-10-2024	D Area	638.25	125.76
17.	17-10-2024	D Area	593.61	111.77
18.	18-10-2024	D Area	604.17	118.74
19.	19-10-2024	D Area	664.81	116.96
20.	20-10-2024	D Area	593.65	103.03
21.	21-10-2024	D Area	625.64	111.31
22.	22-10-2024	D Area	626.25	120.10
23.	23-10-2024	D Area	646.32	118.47
24.	24-10-2024	D Area	661.16	127.70
25.	25-10-2024	D Area	669.35	128.17
26.	26-10-2024	D Area	664.54	130.61
27.	27-10-2024	D Area	650.12	119.40
28.	28-10-2024	D Area	608.39	113.30
29.	29-10-2024	D Area	662.26	121.04
30.	30-10-2024	D Area	644.16	110.90
31.	31-10-2024	D Area	652.00	122.23
Average			635.9	124.9

----End of Report----

Verified By

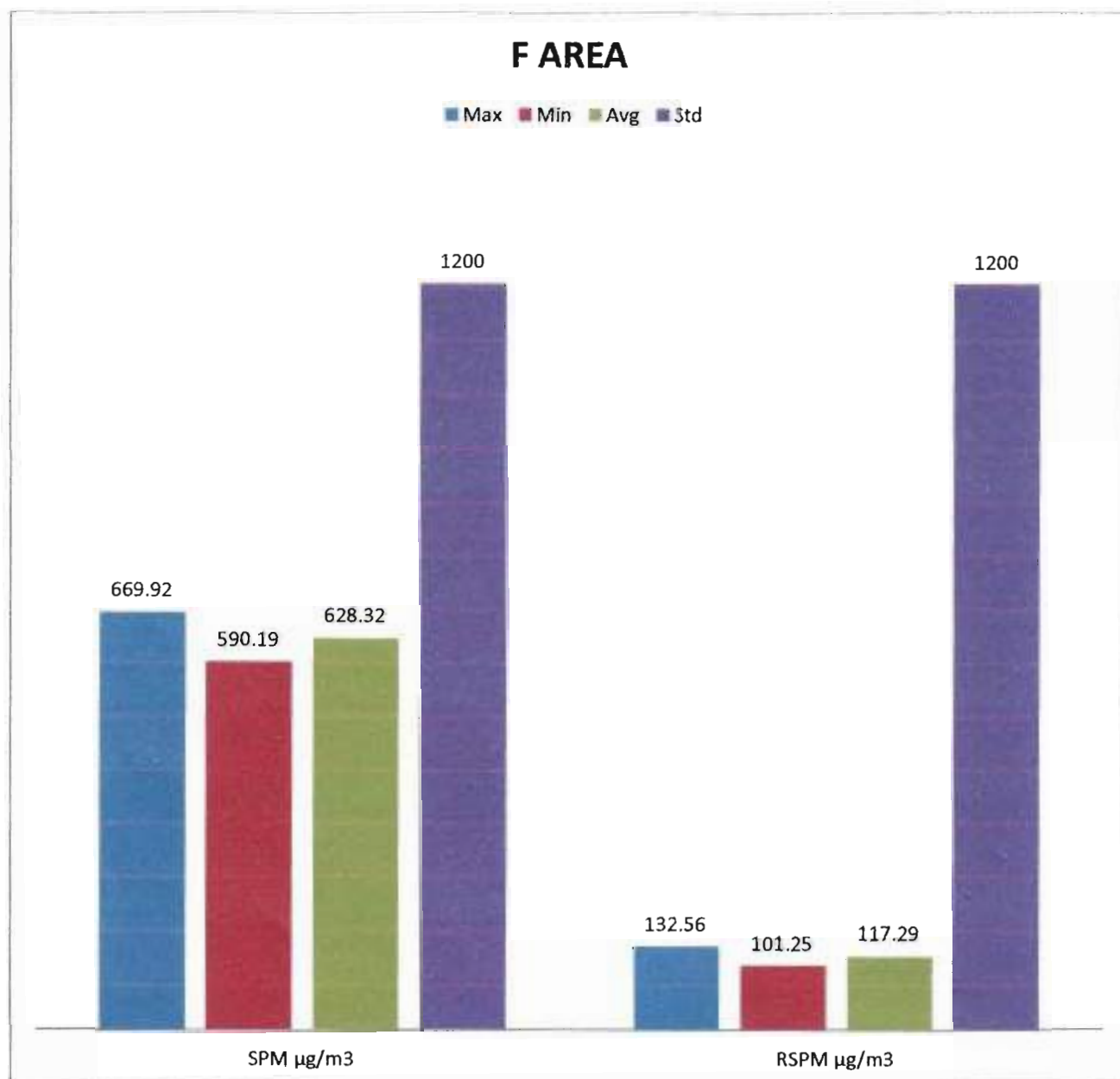

Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhishek Kumar Singh)

3.2.3 F Area(F3)

The pollution level in F Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **669.92 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **590.19 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **101.25 $\mu\text{g}/\text{m}^3$** to **132.56 $\mu\text{g}/\text{m}^3$** during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/73

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **F Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	F Area	597.52	103.31
2.	02-10-2024	F Area	620.26	120.81
3.	03-10-2024	F Area	621.66	112.68
4.	04-10-2024	F Area	669.92	123.27
5.	05-10-2024	F Area	629.31	123.78
6.	06-10-2024	F Area	647.72	123.01
7.	07-10-2024	F Area	618.88	117.71
8.	08-10-2024	F Area	636.10	125.34
9.	09-10-2024	F Area	592.57	101.25
10.	10-10-2024	F Area	668.92	132.56
11.	11-10-2024	F Area	660.88	116.23
12.	12-10-2024	F Area	592.84	109.74
13.	13-10-2024	F Area	623.87	117.54
14.	14-10-2024	F Area	653.70	115.75
15.	15-10-2024	F Area	637.34	109.26
16.	16-10-2024	F Area	602.32	117.53
17.	17-10-2024	F Area	641.21	113.95
18.	18-10-2024	F Area	615.15	105.57
19.	19-10-2024	F Area	592.75	111.42
20.	20-10-2024	F Area	650.93	129.94
21.	21-10-2024	F Area	634.88	119.69
22.	22-10-2024	F Area	619.16	120.38
23.	23-10-2024	F Area	615.81	115.26
24.	24-10-2024	F Area	665.95	125.39
25.	25-10-2024	F Area	625.61	124.26
26.	26-10-2024	F Area	618.21	122.88
27.	27-10-2024	F Area	647.55	125.17
28.	28-10-2024	F Area	612.28	104.30
29.	29-10-2024	F Area	669.61	123.88
30.	30-10-2024	F Area	604.86	116.85
31.	31-10-2024	F Area	590.19	107.30
Average			628.32	117.29

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

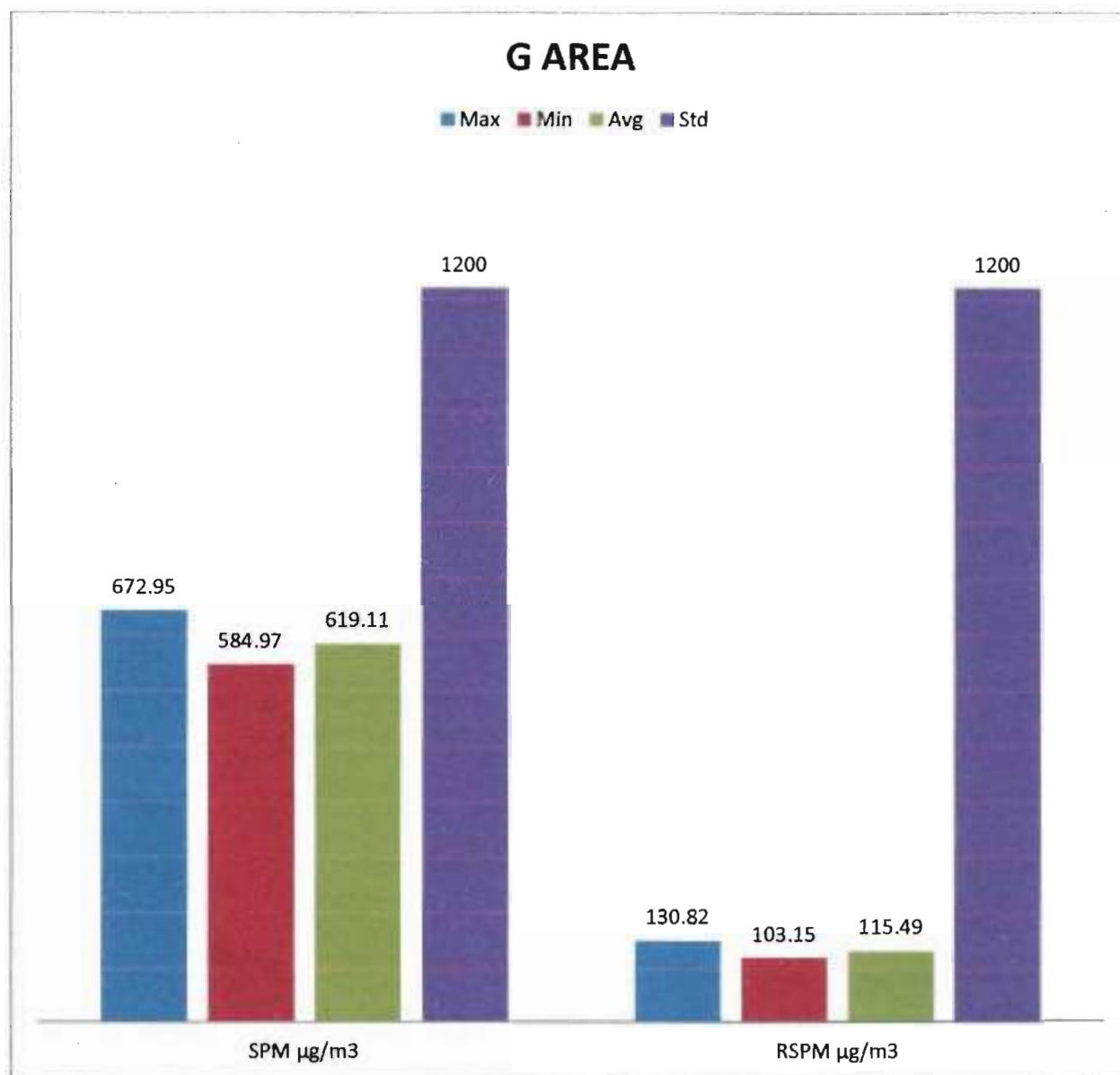
Authorized By

Quality Manager
(Abhishek Kumar Singh)

Page 25 of 52

3.2.4 G Area(F4)

The pollution level in G Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **672.95 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **584.97 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **103.15 $\mu\text{g}/\text{m}^3$** to **130.82 $\mu\text{g}/\text{m}^3$** during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/74

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **G Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	G Area	644.17	111.97
2.	02-10-2024	G Area	622.53	117.66
3.	03-10-2024	G Area	630.50	124.53
4.	04-10-2024	G Area	586.87	110.09
5.	05-10-2024	G Area	619.78	119.43
6.	06-10-2024	G Area	628.19	115.34
7.	07-10-2024	G Area	627.72	119.17
8.	08-10-2024	G Area	588.36	105.05
9.	09-10-2024	G Area	610.12	108.48
10.	10-10-2024	G Area	586.59	112.25
11.	11-10-2024	G Area	599.23	108.06
12.	12-10-2024	G Area	650.96	126.34
13.	13-10-2024	G Area	610.43	117.23
14.	14-10-2024	G Area	633.09	124.15
15.	15-10-2024	G Area	601.59	103.15
16.	16-10-2024	G Area	588.87	106.33
17.	17-10-2024	G Area	597.39	106.98
18.	18-10-2024	G Area	617.48	121.06
19.	19-10-2024	G Area	672.95	117.79
20.	20-10-2024	G Area	606.57	121.22
21.	21-10-2024	G Area	596.30	108.68
22.	22-10-2024	G Area	670.98	129.32
23.	23-10-2024	G Area	629.97	125.93
24.	24-10-2024	G Area	608.80	104.17
25.	25-10-2024	G Area	632.47	116.01
26.	26-10-2024	G Area	620.29	108.16
27.	27-10-2024	G Area	584.97	115.52
28.	28-10-2024	G Area	627.21	114.11
29.	29-10-2024	G Area	622.63	118.84
30.	30-10-2024	G Area	657.77	130.82
31.	31-10-2024	G Area	617.54	112.39
Average			619.11	115.49

---End of Report---

Verified By

Technical Manager
(Vikas Kumar)

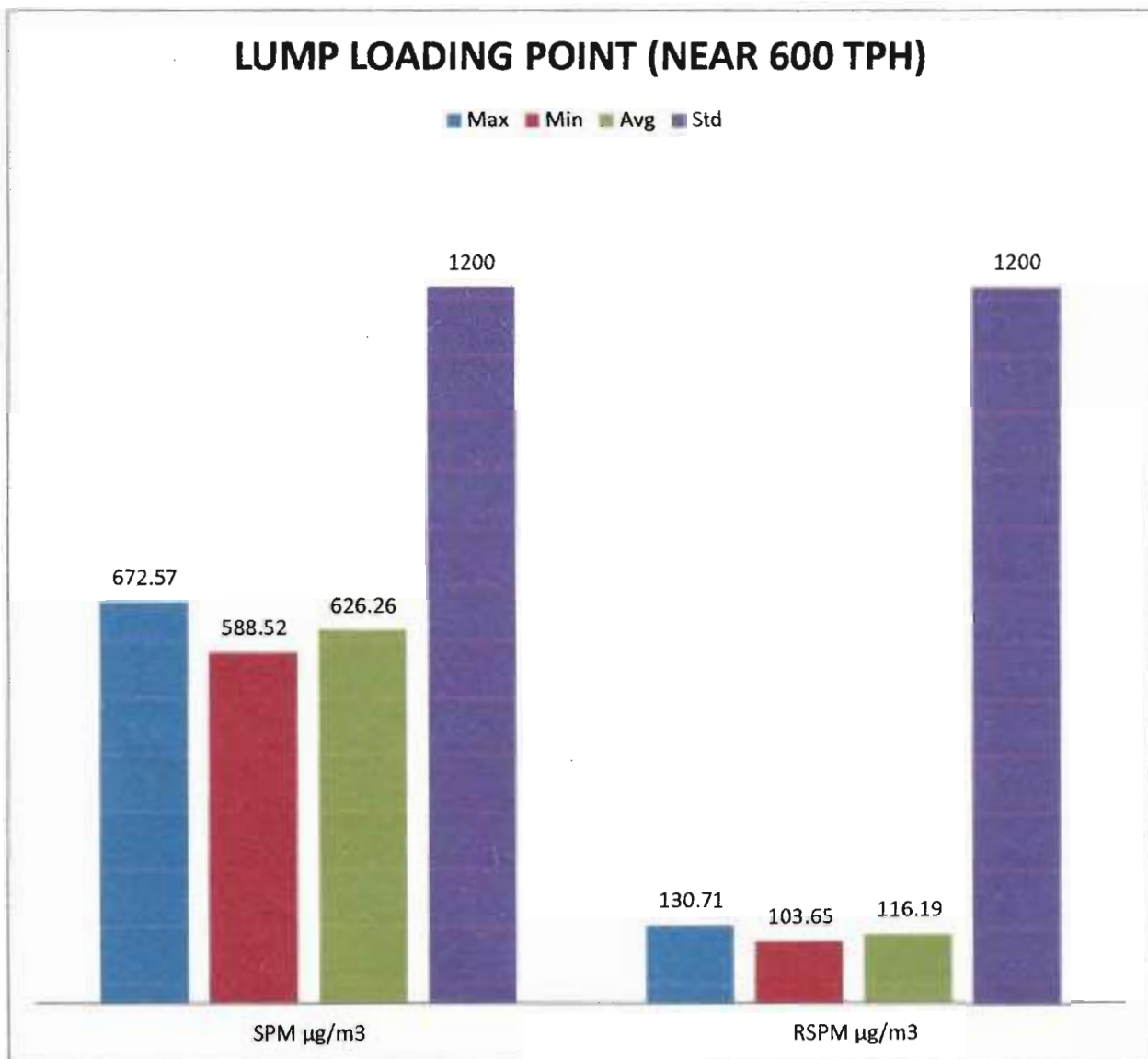
Authorized By

Quality Manager
(Abhishek Kumar Singh)

Page 27 of 52

3.2.5 Lump Loading Point (Near 600 TPH) (F5)

The pollution level in Lump Loading Point (Near 600 TPH) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **672.57** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **588.52** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **103.65** $\mu\text{g}/\text{m}^3$ to **130.71** $\mu\text{g}/\text{m}^3$ during the month.





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Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/75

Test Report Issue date: 05.11.2024

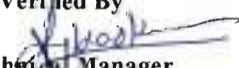
FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Lump Loading Point (Near 600 TPH)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Lump Loading Point (Near 600 TPH)	588.52	110.67
2.	02-10-2024	Lump Loading Point (Near 600 TPH)	637.65	116.83
3.	03-10-2024	Lump Loading Point (Near 600 TPH)	591.11	103.65
4.	04-10-2024	Lump Loading Point (Near 600 TPH)	631.17	121.23
5.	05-10-2024	Lump Loading Point (Near 600 TPH)	594.01	113.88
6.	06-10-2024	Lump Loading Point (Near 600 TPH)	651.98	112.44
7.	07-10-2024	Lump Loading Point (Near 600 TPH)	621.75	110.92
8.	08-10-2024	Lump Loading Point (Near 600 TPH)	672.57	122.72
9.	09-10-2024	Lump Loading Point (Near 600 TPH)	663.54	113.22
10.	10-10-2024	Lump Loading Point (Near 600 TPH)	590.39	111.53
11.	11-10-2024	Lump Loading Point (Near 600 TPH)	604.78	112.06
12.	12-10-2024	Lump Loading Point (Near 600 TPH)	665.57	124.70
13.	13-10-2024	Lump Loading Point (Near 600 TPH)	641.62	125.80
14.	14-10-2024	Lump Loading Point (Near 600 TPH)	608.66	115.90
15.	15-10-2024	Lump Loading Point (Near 600 TPH)	611.71	120.03
16.	16-10-2024	Lump Loading Point (Near 600 TPH)	588.96	107.27
17.	17-10-2024	Lump Loading Point (Near 600 TPH)	598.96	115.04
18.	18-10-2024	Lump Loading Point (Near 600 TPH)	603.68	108.24
19.	19-10-2024	Lump Loading Point (Near 600 TPH)	662.70	130.71
20.	20-10-2024	Lump Loading Point (Near 600 TPH)	604.92	110.94
21.	21-10-2024	Lump Loading Point (Near 600 TPH)	607.97	105.33
22.	22-10-2024	Lump Loading Point (Near 600 TPH)	661.07	128.46
23.	23-10-2024	Lump Loading Point (Near 600 TPH)	618.69	116.10
24.	24-10-2024	Lump Loading Point (Near 600 TPH)	625.63	122.08
25.	25-10-2024	Lump Loading Point (Near 600 TPH)	614.94	112.54
26.	26-10-2024	Lump Loading Point (Near 600 TPH)	618.20	117.01
27.	27-10-2024	Lump Loading Point (Near 600 TPH)	647.44	120.11
28.	28-10-2024	Lump Loading Point (Near 600 TPH)	610.63	112.51
29.	29-10-2024	Lump Loading Point (Near 600 TPH)	654.36	126.42
30.	30-10-2024	Lump Loading Point (Near 600 TPH)	656.42	112.82
31.	31-10-2024	Lump Loading Point (Near 600 TPH)	664.32	120.88
Average			626.26	116.20

----End of Report----

Verified By

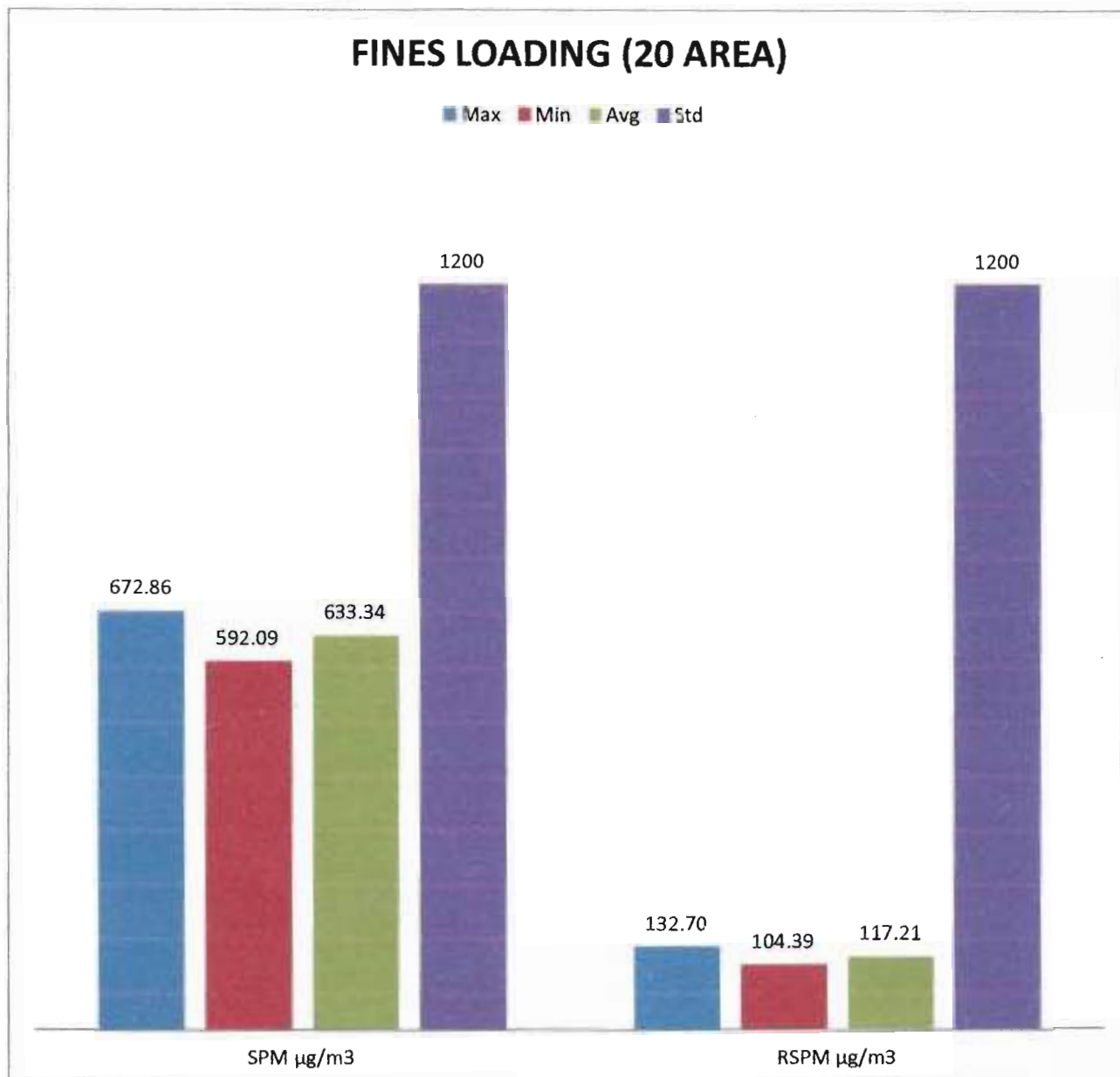

Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhishek Kumar Singh)

3.2.6 Fines Loading (20 area) (F6)

The pollution level in Fines Loading (20 area) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **672.86 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **592.09 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **104.39 $\mu\text{g}/\text{m}^3$** to **132.70 $\mu\text{g}/\text{m}^3$** during the month.





ECOMEN MINING PRIVATE LIMITED

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/76

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Loading (20 area)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Fines Loading (20 area)	637.20	118.46
2.	02-10-2024	Fines Loading (20 area)	661.61	130.05
3.	03-10-2024	Fines Loading (20 area)	613.29	107.31
4.	04-10-2024	Fines Loading (20 area)	668.54	132.70
5.	05-10-2024	Fines Loading (20 area)	616.08	112.37
6.	06-10-2024	Fines Loading (20 area)	643.29	109.98
7.	07-10-2024	Fines Loading (20 area)	672.86	120.88
8.	08-10-2024	Fines Loading (20 area)	601.31	107.73
9.	09-10-2024	Fines Loading (20 area)	660.11	124.52
10.	10-10-2024	Fines Loading (20 area)	602.03	105.33
11.	11-10-2024	Fines Loading (20 area)	605.77	120.16
12.	12-10-2024	Fines Loading (20 area)	666.18	127.63
13.	13-10-2024	Fines Loading (20 area)	638.28	113.60
14.	14-10-2024	Fines Loading (20 area)	672.67	129.17
15.	15-10-2024	Fines Loading (20 area)	648.74	116.76
16.	16-10-2024	Fines Loading (20 area)	654.06	125.27
17.	17-10-2024	Fines Loading (20 area)	604.84	114.56
18.	18-10-2024	Fines Loading (20 area)	626.89	114.92
19.	19-10-2024	Fines Loading (20 area)	653.90	119.83
20.	20-10-2024	Fines Loading (20 area)	641.67	114.60
21.	21-10-2024	Fines Loading (20 area)	605.44	107.26
22.	22-10-2024	Fines Loading (20 area)	628.87	113.86
23.	23-10-2024	Fines Loading (20 area)	671.31	125.26
24.	24-10-2024	Fines Loading (20 area)	601.32	115.89
25.	25-10-2024	Fines Loading (20 area)	592.09	115.99
26.	26-10-2024	Fines Loading (20 area)	653.34	122.76
27.	27-10-2024	Fines Loading (20 area)	624.22	119.73
28.	28-10-2024	Fines Loading (20 area)	597.75	116.75
29.	29-10-2024	Fines Loading (20 area)	599.99	104.39
30.	30-10-2024	Fines Loading (20 area)	665.29	114.95
31.	31-10-2024	Fines Loading (20 area)	604.64	110.70
Average			633.34	117.21

---End of Report---

Verified By

Technical Manager
(Vikas Kumar)

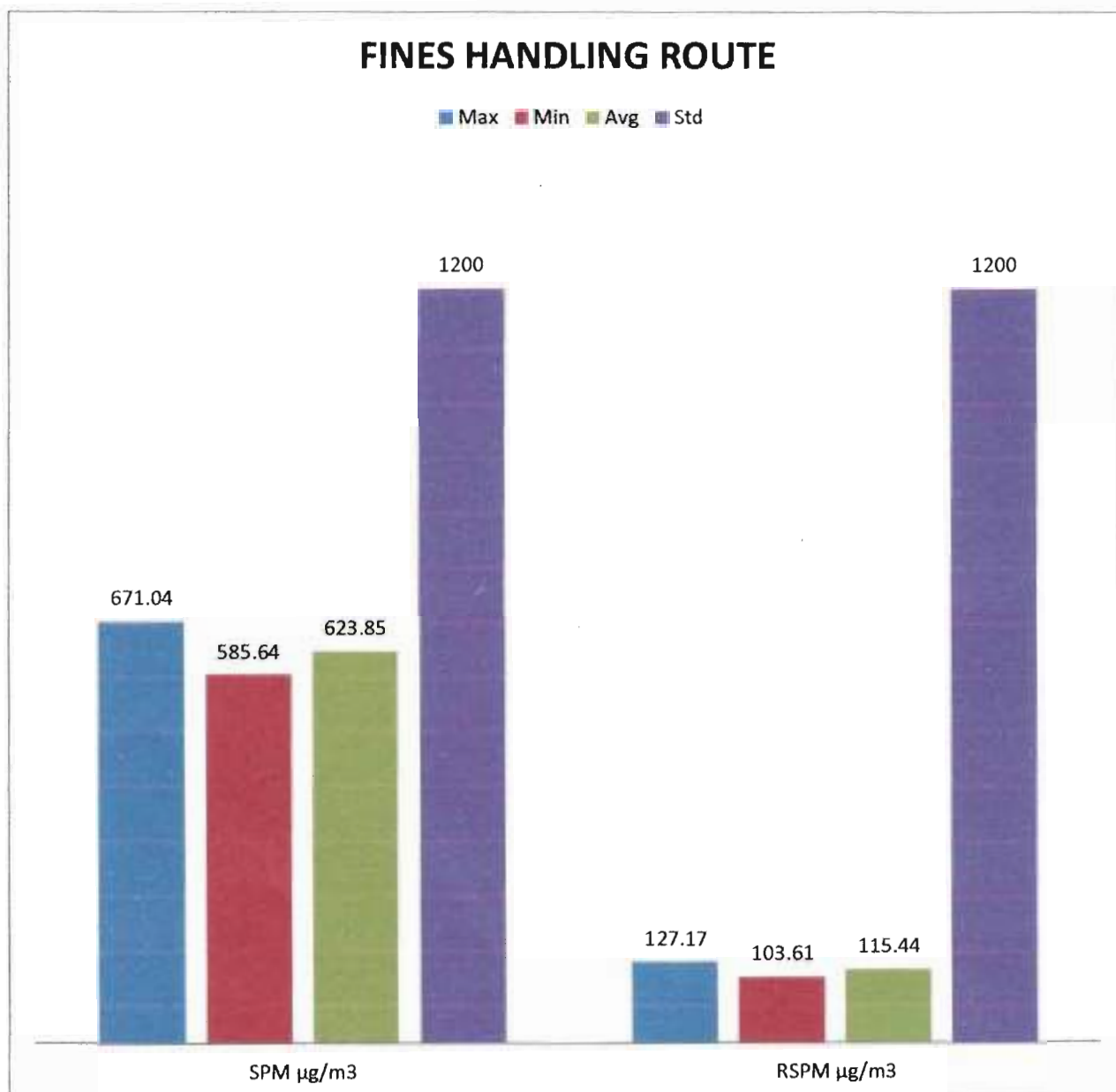
Authorized By

Quality Manager
(Abhishek Kumar Singh)

Page 31 of 52

3.2.7 Fines Handling Route (F7)

The pollution level in Fines Handling Route for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **671.04** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **585.64** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **103.61** $\mu\text{g}/\text{m}^3$ to **127.17** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/77

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Handling Route**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Fines Handling Route	592.96	106.03
2.	02-10-2024	Fines Handling Route	612.51	106.64
3.	03-10-2024	Fines Handling Route	670.03	125.09
4.	04-10-2024	Fines Handling Route	643.78	116.48
5.	05-10-2024	Fines Handling Route	600.90	118.66
6.	06-10-2024	Fines Handling Route	671.04	125.00
7.	07-10-2024	Fines Handling Route	598.20	118.15
8.	08-10-2024	Fines Handling Route	648.54	117.15
9.	09-10-2024	Fines Handling Route	643.38	115.30
10.	10-10-2024	Fines Handling Route	654.10	122.48
11.	11-10-2024	Fines Handling Route	637.74	114.41
12.	12-10-2024	Fines Handling Route	668.87	127.17
13.	13-10-2024	Fines Handling Route	595.47	106.11
14.	14-10-2024	Fines Handling Route	594.19	114.16
15.	15-10-2024	Fines Handling Route	632.48	124.97
16.	16-10-2024	Fines Handling Route	664.92	123.57
17.	17-10-2024	Fines Handling Route	620.26	114.19
18.	18-10-2024	Fines Handling Route	604.21	106.22
19.	19-10-2024	Fines Handling Route	617.69	113.96
20.	20-10-2024	Fines Handling Route	608.20	114.93
21.	21-10-2024	Fines Handling Route	630.51	107.64
22.	22-10-2024	Fines Handling Route	608.41	107.11
23.	23-10-2024	Fines Handling Route	611.12	116.45
24.	24-10-2024	Fines Handling Route	639.85	116.18
25.	25-10-2024	Fines Handling Route	591.95	103.61
26.	26-10-2024	Fines Handling Route	585.64	110.29
27.	27-10-2024	Fines Handling Route	599.30	106.21
28.	28-10-2024	Fines Handling Route	615.29	119.09
29.	29-10-2024	Fines Handling Route	645.55	126.54
30.	30-10-2024	Fines Handling Route	594.03	112.38
31.	31-10-2024	Fines Handling Route	638.27	122.34
Average			623.85	115.44

----End of Report----

Verified By

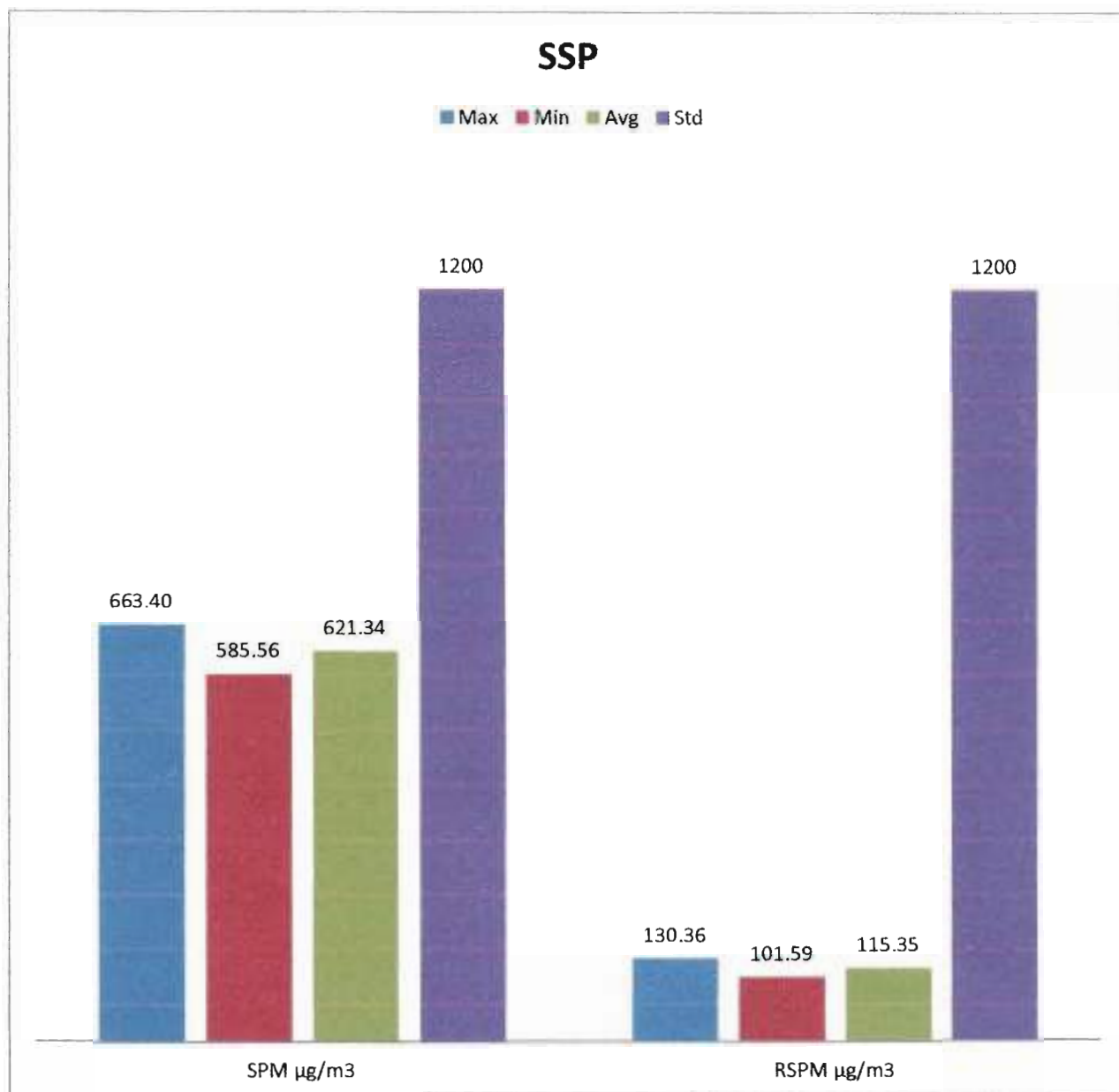
Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

3.2.8 SSP (F8)

The pollution level in SSP Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **663.40** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **585.56** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **101.59** $\mu\text{g}/\text{m}^3$ to **130.36** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/78

Test Report Issue date: 05.11.2024

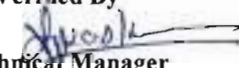
FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **SSP**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

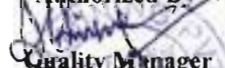
Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	SSP	663.40	129.70
2.	02-10-2024	SSP	597.88	111.31
3.	03-10-2024	SSP	648.88	115.78
4.	04-10-2024	SSP	628.27	109.01
5.	05-10-2024	SSP	641.89	122.65
6.	06-10-2024	SSP	610.13	108.56
7.	07-10-2024	SSP	587.22	116.82
8.	08-10-2024	SSP	620.81	109.41
9.	09-10-2024	SSP	650.84	122.98
10.	10-10-2024	SSP	602.42	118.12
11.	11-10-2024	SSP	615.48	117.74
12.	12-10-2024	SSP	651.31	127.57
13.	13-10-2024	SSP	656.45	130.36
14.	14-10-2024	SSP	619.94	121.60
15.	15-10-2024	SSP	603.54	116.25
16.	16-10-2024	SSP	618.18	111.11
17.	17-10-2024	SSP	640.64	112.79
18.	18-10-2024	SSP	601.18	112.20
19.	19-10-2024	SSP	596.06	101.59
20.	20-10-2024	SSP	600.95	107.17
21.	21-10-2024	SSP	648.06	117.65
22.	22-10-2024	SSP	624.35	120.34
23.	23-10-2024	SSP	647.30	111.17
24.	24-10-2024	SSP	620.67	108.46
25.	25-10-2024	SSP	591.46	103.06
26.	26-10-2024	SSP	585.56	112.26
27.	27-10-2024	SSP	609.02	115.78
28.	28-10-2024	SSP	629.83	121.92
29.	29-10-2024	SSP	653.21	123.19
30.	30-10-2024	SSP	606.93	117.24
31.	31-10-2024	SSP	589.80	102.02
Average			621.34	115.35

----End of Report----

Verified By


Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhishek Kumar Singh)

3.2.9 Dump Fines Handling Site (F9)

The pollution level in Dump Fines Handling Site for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **670.55 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **584.30 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **102.11 $\mu\text{g}/\text{m}^3$** to **128.93 $\mu\text{g}/\text{m}^3$** during the month.





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Dump Fines Handling Site**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Dump Fines Handling Site	637.56	111.24
2.	02-10-2024	Dump Fines Handling Site	644.08	113.27
3.	03-10-2024	Dump Fines Handling Site	629.00	118.57
4.	04-10-2024	Dump Fines Handling Site	599.32	109.53
5.	05-10-2024	Dump Fines Handling Site	615.77	107.60
6.	06-10-2024	Dump Fines Handling Site	608.66	113.94
7.	07-10-2024	Dump Fines Handling Site	643.57	112.81
8.	08-10-2024	Dump Fines Handling Site	611.92	116.24
9.	09-10-2024	Dump Fines Handling Site	601.03	103.61
10.	10-10-2024	Dump Fines Handling Site	653.98	117.99
11.	11-10-2024	Dump Fines Handling Site	602.56	118.28
12.	12-10-2024	Dump Fines Handling Site	592.36	108.74
13.	13-10-2024	Dump Fines Handling Site	642.70	121.66
14.	14-10-2024	Dump Fines Handling Site	657.30	118.52
15.	15-10-2024	Dump Fines Handling Site	597.10	106.01
16.	16-10-2024	Dump Fines Handling Site	587.53	102.49
17.	17-10-2024	Dump Fines Handling Site	599.22	108.60
18.	18-10-2024	Dump Fines Handling Site	584.30	105.16
19.	19-10-2024	Dump Fines Handling Site	638.53	111.72
20.	20-10-2024	Dump Fines Handling Site	597.37	102.11
21.	21-10-2024	Dump Fines Handling Site	615.48	118.96
22.	22-10-2024	Dump Fines Handling Site	608.87	118.87
23.	23-10-2024	Dump Fines Handling Site	645.15	124.73
24.	24-10-2024	Dump Fines Handling Site	640.63	109.98
25.	25-10-2024	Dump Fines Handling Site	629.13	120.74
26.	26-10-2024	Dump Fines Handling Site	661.39	116.11
27.	27-10-2024	Dump Fines Handling Site	654.01	126.59
28.	28-10-2024	Dump Fines Handling Site	664.16	128.93
29.	29-10-2024	Dump Fines Handling Site	631.40	120.17
30.	30-10-2024	Dump Fines Handling Site	670.55	128.28
31.	31-10-2024	Dump Fines Handling Site	585.47	104.91
Average			624.20	114.40

---End of Report---

Verified By

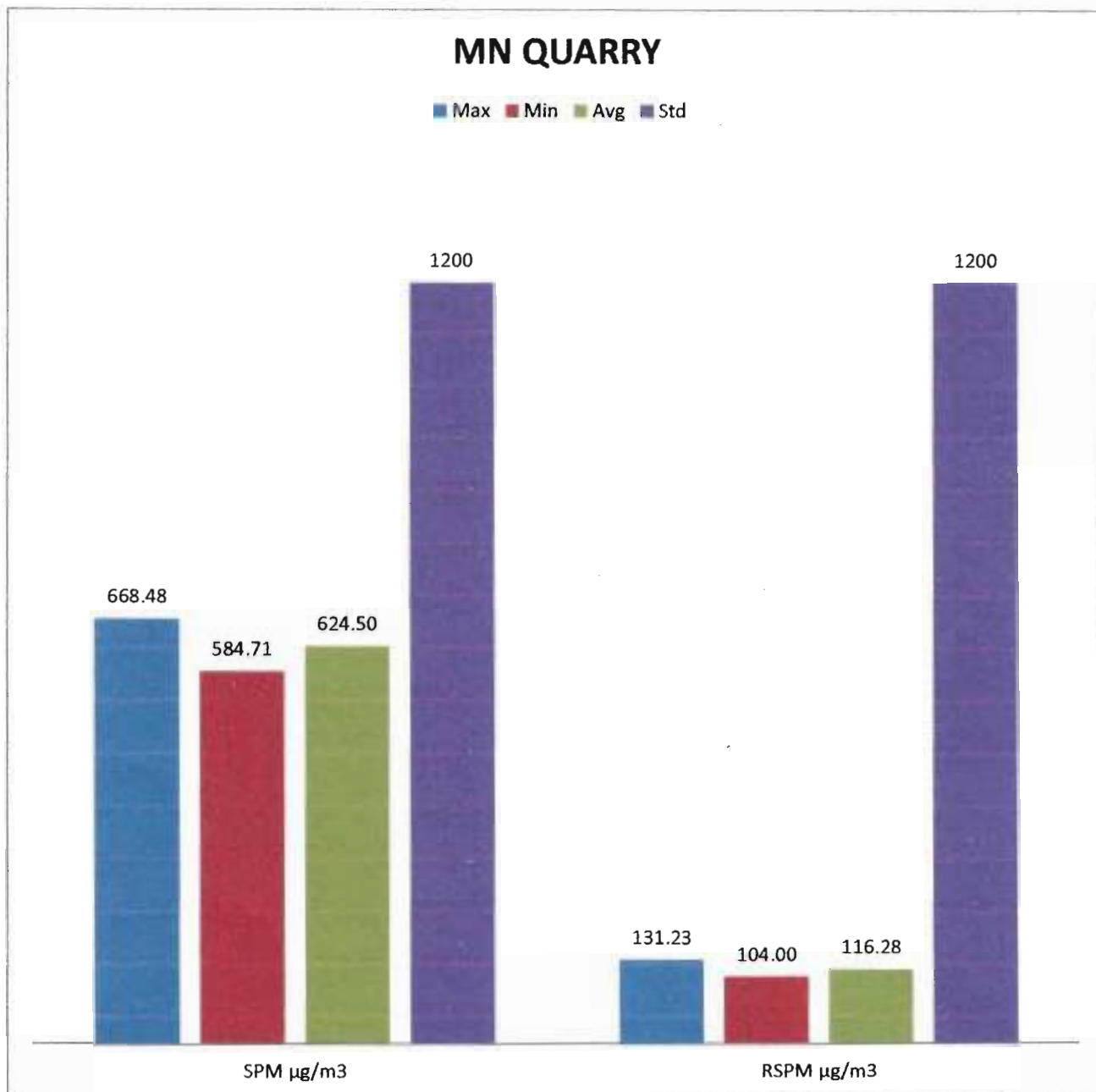
Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)

3.2.10 Mn Quarry (F5)

The pollution level in Mn Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **668.48** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **584.71** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **104.00** $\mu\text{g}/\text{m}^3$ to **139.23** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Test Report Issue date: 05.11.2024

FUGITIVE EMISSION MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : Mn Quarry
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-10-2024	Mn Quarry	630.45	115.89
2.	02-10-2024	Mn Quarry	662.85	127.21
3.	03-10-2024	Mn Quarry	595.05	109.01
4.	04-10-2024	Mn Quarry	635.49	121.79
5.	05-10-2024	Mn Quarry	668.48	126.97
6.	06-10-2024	Mn Quarry	602.73	104.00
7.	07-10-2024	Mn Quarry	590.32	116.73
8.	08-10-2024	Mn Quarry	664.28	119.20
9.	09-10-2024	Mn Quarry	591.93	106.05
10.	10-10-2024	Mn Quarry	666.41	122.40
11.	11-10-2024	Mn Quarry	666.42	131.23
12.	12-10-2024	Mn Quarry	630.93	123.07
13.	13-10-2024	Mn Quarry	597.57	109.00
14.	14-10-2024	Mn Quarry	584.71	113.71
15.	15-10-2024	Mn Quarry	632.99	110.98
16.	16-10-2024	Mn Quarry	604.19	116.63
17.	17-10-2024	Mn Quarry	619.81	115.46
18.	18-10-2024	Mn Quarry	596.73	107.78
19.	19-10-2024	Mn Quarry	590.42	115.18
20.	20-10-2024	Mn Quarry	657.77	122.27
21.	21-10-2024	Mn Quarry	619.20	110.67
22.	22-10-2024	Mn Quarry	665.09	123.12
23.	23-10-2024	Mn Quarry	634.99	121.77
24.	24-10-2024	Mn Quarry	595.80	112.95
25.	25-10-2024	Mn Quarry	623.24	119.31
26.	26-10-2024	Mn Quarry	658.21	122.33
27.	27-10-2024	Mn Quarry	633.37	113.85
28.	28-10-2024	Mn Quarry	616.19	113.26
29.	29-10-2024	Mn Quarry	591.38	106.98
30.	30-10-2024	Mn Quarry	627.79	118.69
31.	31-10-2024	Mn Quarry	604.57	107.31
Average			624.50	116.28

---End of Report---

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quarry Manager
(Abhishek Kumar Singh)

3.3 Surface/Effluent/Drinking Water Quality:

As per the guideline of CPCB, the following criteria shall be taken into consideration for use of the surface water bodies. Reports below shows the surface water quality analysis results at identified locations near the ML area.

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	- Total Coliforms Organism MPN/100ml shall be 50 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 6mg/l or more - Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor bathing (Organized)	B	- Total Coliforms Organism MPN/100ml shall be 500 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 5mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	- Total Coliforms Organism MPN/100ml shall be 5000 or less - pH between 6 to 9 - Dissolved Oxygen 4mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	- pH between 6.5 to 8.5 - Dissolved Oxygen 4mg/l or more - Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	- pH between 6.0 to 8.5 - Electrical Conductivity at 25C micro mhos/cm Max. 2250 - Sodium absorption Ratio Max. 26 - Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria

2.3.1 Surface Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000367F
		Test Report No.	ECO/LAB/SW/0086/0367/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Surface Water		
Sample Registration No.	0086	Name of Location	Karo Near Lease Boundary at Linture Village
Sampling Method	APHA 23 rd Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0367/09/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is- 2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	46.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	20.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.7	3.0
4.	Chloride as Cl	mg/l	APHA, 23rd Ed. :2023,4500 Cl A+B	5-1000	18.4	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	<5	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.13	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ₂ -F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technician Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)





Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-009		Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	ECO/IDMA/10/2024	Dated	19/10/2024	
Type of Sample#	Surface Water (ECO/LAB/0707/10/2024)			
Customer's Description of Sample#	Surface Water (ECO/LAB/0707/10/2024)			
Mode of Collection of Sample	By the Party. (D.O.S.18.10.2024)			
Date of Sampling	21/10/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Karo Near Lease Boundryat Limtur Village)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Date of Reporting	26/10/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.28	APHA 4500H+9 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Iron	mg/L	0.003	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,
391, Industrial Area, Phase - 1,
Panchkula - 134113,
Haryana (India)
Tel No. 0172 - 5064827, - 5064530
Website : www.idmagroup.co.in
Email : commercial@idmalab.co.in

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ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Allganj, Lucknow - 226 024

Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN : U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000368F
		Test Report No.	ECO/LAB/SW/0086/0368/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Surface Water		
Sample Registration No.	0086	Name of Location	Jhikaria Nalla before Joining Karo River
Sampling Method	APHA 23 rd Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0368/09/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	28.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	26.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.4	3.0
4.	Chloride as Cl	mg/l	APHA, 23rd Ed. :2023,4500 Cl A+B	5-1000	14.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	6.52	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ₂ - F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

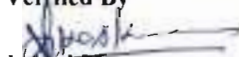
Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By


Technical Manager
(Vikas Kumar)

Authorized By


Quantity Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-010			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	ECO/IDMA/09/2024	Dated	19/10/2024	
Type of Sample#	Surface Water(ECO/LAB/0708/10/2024)			
Customer's Description of Sample#	Surface Water(ECO/LAB/0708/10/2024)			
Mode of Collection of Sample	By the Party. (D.O.S.18.10.2024)			
Date of Sampling	21/10/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc. Jhinkaria Nallah Before Joining Karo)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Date of Reporting	26/10/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.33	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	2.7	APHA 5500 B 24th Edition, 2023
4	Total Iron	mg/L	0.005	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,
391, Industrial Area, Phase - 1,
Panchkula - 134113,
Haryana (India)
Tel No. 0172 - 5064827, - 5064830
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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000369F
		Test Report No.	ECO/LAB/SW/0086/0369/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Surface Water		
Sample Registration No.	0086	Name of Location	Panpash Nallah
Sampling Method	APHA 23 rd Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0369/09/2024

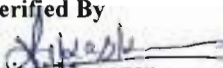
Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	30.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	30.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.5	3.0
4.	Chloride as Cl	mg/l	APHA, 23rd Ed. :2023,4500 Cl A+B	5-1000	20.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.12	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	5.88	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.14	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

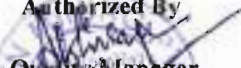
Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

- Test results relate to the items sampled & tested.
- Test report shall not be reproduced except in full without approval of the laboratory.
- The test samples will be disposed of after one Month from the date of issue of test report.
- BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-011			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	ECO/IDMA/10/2024	Dated	19/10/2024	
Type of Sample#	Surface Water (ECO/LAB/0708/10/2024)			
Customer's Description of Sample#	Surface Water (ECO/LAB/0708/10/2024)			
Mode of Collection of Sample	By the Party. (D.O.S.18.10.2024)			
Date of Sampling	21/10/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Panposh Nalla)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Date of Reporting	26/10/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.30	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Iron	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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Email : commercial@idmasb.co.in

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000370F
		Test Report No.	ECO/LAB/SW/0086/0370/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Surface Water		
Sample Registration No.	0086	Name of Location	Karo River Intake
Sampling Method	APHA 23 rd Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0370/09/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23 rd Ed. :2017,2540-D	5 -5000	20.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23 rd Ed. :2017,5220 A+C	1 -1000	29.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23 rd Ed. :2017,5210 A+B	1 -1000	2.7	3.0
4.	Chloride as Cl	mg/l	APHA, 23 rd Ed. :2023,4500 Cl A+B	5-1000	18.0	600
5.	Fluoride as F	mg/l	APHA, 23 rd Ed. : 2017,4500-C	0.05 -10	0.14	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23 rd Ed. :2017,4500NO ₃ -E	5-100	5.23	50
7.	Arsenic as As	mg/l	APHA, 23 rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23 rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23 rd Ed. : 2017, 3500 Fe-B	0.02-50	0.06	3.0
10.	Copper as Cu	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.02-50	<0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23 rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23 rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23 rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23 rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

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4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-012		Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	ECO/IDMA/10/2024	Dated	19/10/2024	
Type of Sample#	Surface Water (ECO/LAB/0710/10/2024)			
Customer's Description of Sample#	Surface Water (ECO/LAB/0710/10/2024)			
Mode of Collection of Sample	By the Party.(D.O.S.18.10.2024)			
Date of Sampling	21/10/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Karo River Intake)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Date of Reporting	25/10/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.11	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Iron	mg/L	0.0006	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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- Legal disputes are subjected to Panchkula Jurisdiction only.
- Any complaint/discrepancies in this Test Report should be communicated in writing within 15 days of the dispatch of Test Report.
- In case of any dispute, the terms & conditions of Idma Laboratories Limited shall prevail.
- In case of any feedback/complaints, please send email at testing@idmagroup.co.in or call at 0172 - 5064827 / 5064830

2.3.2 Effluent Waste Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400000373F
		Test Report No.	ECO/LAB/WW/0086/0373/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Waste Water		
Sample Registration No.	0086	Name of Location	Oil Catch Pit Water Bottom Garbage
Sampling Method	APHA 23 rd Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0373/09/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E) Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.65	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	44.0	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	22.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.6	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.20	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	6.5	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.17	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

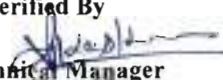
Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By


Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-013			Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha				
Type of Sample#	Waste Water (ECO/LAB/0711/10/2024)				
Work Order No.#	ECO/IDMA/10/2024			Dated	19/10/2024
Customer's Description of Sample#	Waste Water (ECO/LAB/0711/10/2024)				
Subject#	N/A				
Quantity#	01 Ltr.				
Packing, Markings, Seal#	Plastic Bottle. (Loc. Oil Catchpit Water Bottom Garage)				
Mode of Receipt of Sample	By Hand				
Date of Receipt of Sample	21/10/2024				
Period of Analysis	21/10/2024 To 26/10/2024				
Date of Reporting	26/10/2024				
Remarks	Sample supplied by the Party. (D.O.S.18.10.2024)				
Testing Protocol	CPCB				

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-	-
1	Total Chlorine (Residual)	mg/L	0.16	Max 1.0	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.05	Max 0.2	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.66	Max 3.0	CPCB Guide Manual:Water & waste water Analysis

Represents details provided by the customer.

****End of Report****



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064527, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Aliganj, Lucknow - 226 024

Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400000374F
		Test Report No.	ECO/LAB/WW/0086/0374/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Waste Water		
Sample Registration No.	0086	Name of Location	Oil Catch pit water G-Area
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0374/09/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E)
						Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.68	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	34.0	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	28.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.2	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.18	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	5.22	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.18	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By


Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-014			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Type of Sample#	Waste Water (ECO/LAB/0712/10/2024)			
Work Order No.#	ECO/IDMA/10/2024	Dated	19/10/2024	
Customer's Description of Sample#	Waste Water (ECO/LAB/0712/10/2024)			
Subject#	N/A			
Quantity#	01 Ltr.			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water G-Area)			
Mode of Receipt of Sample	By Hand			
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Date of Reporting	26/10/2024			
Remarks	Sample supplied by the Party. (D.O.S.18.10.2024)			
Testing Protocol	CPCB			

RESULTS

S.No.	Test Parameter	Units	Results	Specifications	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-	-
1	Total Chlorine (Residual)	mg/L	0.12	Max 1.0	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	Max 0.2	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.72	Max 3.0	CPCB Guide Manual:Water & waste water Analysis

Represents details provided by the customer.

End of Report

Reviewed by

Authorised signatory

Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064327, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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2.3.3 Drinking Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000372F
		Test Report No.	ECO/LAB/DW/0086/0371/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Drinking Water		
Sample Registration No.	0086	Name of Location	Mount Club Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0371/09/2024

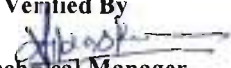
Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.91	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.11	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.06	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	0.07	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

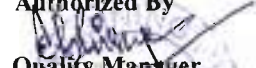
Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note-

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL:- Below Detection Limit

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-007			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Type of Sample#	Drinking Water (ECO/LAB/0705/10/2024)			
Customer's Description of Sample#	Drinking Water (ECO/LAB/0705/10/2024)			
Quantity#	01 Ltr.			
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc.Mount Club Tap Water)			
Mode of Collection of Sample	By the Party.(D.O.S. 18.10.2024)			
Work Order No.#	ECO/IDMA/10/2024	Dated	19/10/2024	
Date of Receipt of Sample	21/10/2024			
Period of Analysis	21/10/2024 To 26/10/2024			
Visual Observation	N/A			
Date of Reporting	26/10/2024			
Testing Protocol	IS: 10500:2012			

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Chlorine (Residual)	mg/L	0.24	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	<0.0005	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400000372F
		Test Report No.	ECO/LAB/DW/0086/0372/09/2024
		Issue Date of Test Report	08.10.2024
Type of Sample	Drinking Water		
Sample Registration No.	0086	Name of Location	Karo Guest House Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	25.10.2024	Time of Sample Collection	-
Date of Sample Receipt	30.10.2024	Time of Sample Receipt	05:40 PM
Start Date of Analysis	30.10.2024	End Date of Analysis	08.10.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 53%	Sample ID Code	ECO/LAB/0372/09/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.80	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.08	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.11	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ -F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note:

1. Test results relate to the items sampled & tested.
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3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager
(Vikas Kumar)

Authorized By

Quality Manager
(Abhishek Kumar Singh)



Idma Laboratories Limited

TEST REPORT

Lab No.	211024N-E-008	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Orea Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Type of Sample#	Drinking Water(ECO/LAB/0706/10/2024)	
Customer's Description of Sample#	Drinking Water(ECO/LAB/0706/10/2024)	
Quantity#	01 Ltr.	
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc. Karo Guest House Tap Water)	
Mode of Collection of Sample	By the Party. (D.O.S. 18.10.2024)	
Work Order No.#	ECO/IDMA/10/2024	Dated 19/10/2024
Date of Receipt of Sample	21/10/2024	
Period of Analysis	21/10/2024 To 26/10/2024	
Visual Observation	N/A	
Date of Reporting	26/10/2024	
Testing Protocol	IS: 10500:2012	

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Chlorine (Residual)	mg/L	0.23	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	0.002	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5054827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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- Samples not drawn by us unless otherwise stated.
- Total liability of Idma Laboratories Limited is limited to the invoiced amount.
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2.4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, and wind speed and wind direction are given in **Table No. 2.5.2**. During the month of 'OCTOBER 2024' the temperature varied from 20.0°C to 36.6°C & Relative Humidity varied from 44.2% to 98.8%. The maximum wind speed recorded during the month was 19 m/s and the overall average wind speed is calculated to be 3.46 m/s, 10.75% of the time the wind remained calm (<0.5 m/s). The predominant wind direction as observed to be from South West (SW) direction during the month. The total rainfall observed during the month was 144 & 07 out of 31 were rainy days. Max. And Min. Value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for OCTOBER 2024 are given below.

Table No. 2.4.2: Results of Site Specific Meteorological Data

Parameters		OCTOBER, 2024
Temperature (°C)	Maximum	36.6
	Minimum	20.0
	Average	27.21
Relative Humidity (%)	Maximum	98.8
	Minimum	44.2
	Average	82.54
Wind Speed(m/s)	Maximum	19.0
	Average	3.46
Wind Direction (%)	N	5.5
	NNE	5.25
	NE	6.72
	ENE	4.84
	E	5.36
	ESE	9.41
	SE	2.82
	SSE	11.28
	S	2.14
	SSW	9.67
	SW	14.25
	WSW	9.4
	W	5.65
	WNW	4.04
	NW	1.75
	NNW	1.88
	CALM	10.75
Rainfall(mm)	Monthly Total	144
	No. of rainy days	07



ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AWS/06

Test Report Issue date: 05.10.2024

METEROLOGICAL MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist- Keonjhar , Odisha**
2. Monitoring Instruments : **Automatic Weather Station (AWS)**
3. Sampling Location : **DAV Public School**

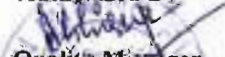
Date	Temperature (°C)		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.10.2024	36.10	23.70	86.90	46.70	5.00	0	0
02.10.2024	33.30	24.90	84.20	57.10	5.50	0	0
03.10.2024	35.50	24.30	85.00	51.00	13.75	0	0
04.10.2024	35.70	25.70	87.40	51.80	12.25	0	0
05.10.2024	36.60	23.50	98.00	44.90	8.50	0	0
06.10.2024	34.60	24.50	98.10	57.80	6.00	0	0
07.10.2024	36.20	23.60	98.80	48.10	4.50	0	0
08.10.2024	34.70	23.70	98.70	51.70	7.50	0	0
09.10.2024	36.20	23.60	98.70	48.10	7.75	0	0
10.10.2024	34.70	23.30	98.70	53.30	11.75	0	0
11.10.2024	34.70	23.40	98.70	57.20	8.75	0	33.0
12.10.2024	34.80	23.70	98.70	55.60	7.75	0	0
13.10.2024	35.00	23.90	98.70	52.00	6.75	0	2.8
14.10.2024	35.00	23.60	98.70	49.20	3.25	0	0
15.10.2024	35.40	23.70	98.80	53.20	10.75	0	3.6
16.10.2024	34.00	23.30	98.80	57.20	9.25	0	0.2
17.10.2024	35.60	23.10	98.70	49.50	8.00	0	0
18.10.2024	34.90	23.40	98.70	54.80	8.75	0	0
19.10.2024	34.90	24.50	98.80	48.90	7.00	0	0.6
20.10.2024	34.50	23.30	98.80	49.90	3.75	0	0
21.10.2024	33.50	22.20	98.70	44.20	7.00	0	0
22.10.2024	33.50	20.00	98.60	48.70	7.00	0	0
23.10.2024	32.30	20.60	98.60	53.80	7.00	0	0
24.10.2024	25.00	22.90	98.70	81.50	13.75	0	4.4
25.10.2024	24.40	22.90	98.70	87.20	19.00	0	29.4
26.10.2024	24.40	22.90	98.70	96.40	16.00	0	15.0
27.10.2024	32.10	23.70	98.80	59.90	7.00	0	0.2
28.10.2024	32.70	24.20	98.80	56.10	5.50	0	0
29.10.2024	33.60	23.50	98.80	57.80	4.50	0	0
30.10.2024	35.40	22.70	98.80	52.20	8.25	0	54.8
31.10.2024	33.00	22.80	98.80	60.30	9.50	0	0

----End of Report----

Verified By


Technical Manager
(Vikas Kumar)

Authorized By


Quality Manager
(Abhinav Kumar Singh)
Page 51 of 52

2.5 Surface Flow Rate (Nallah/Stream):

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/SWF/07

Test Report Issue date: 05.11.2024

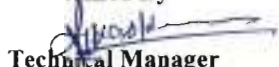
SURFACE FLOW RATE MONITORING REPORT FOR OCTOBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **Flow Meter**
3. Sampling Location : **Karo River Limtur Villg, Jhikaria Nallah , Panposh Nallah**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Location Name	Station Code	Result in (m/sec)
Karo River Limtur Village	SWFM1	0.52
Jhikaria nallah	SWFM2	0.28
Panposh Nallah	SWFM3	0.34

----End of Report----

Verified By


Technical Manager
 (Vikas Kumar)

Authorized By


Quality Manager
 (Abhishek Kumar Singh)



Monthly Photo Report

PHOTO REPORT OF BOLANI ORES MINES OF SAIL, BOLANI, ODISHA

ABSTRACT

*FEW SNAPSHOTS OF MONITORING ACTIVITIES THAT
WERE DONE IN THE MINES DURING THE MONTH OF
OCTOBER 2024 SAIL*

1. AMBIENT AIR QUALITY



DAV PUBLIC SCHOOL



KARO GUEST HOUSE

2. FUGITIVE EMISSION



F AREA



G AREA



FINE HANDLING ROUTE



FINE LOADING 20 AREA



3. DRINKING WATER



MOUNT CLUB TAP WATER

4. SURFACE WATER QUALITY



KARO RIVER INTAKE



NEAR LEASE BOUNDARY LIMTUR VILLAGE



JHINKARIA NALLAH BEFORE JOINING KARO



PANPOSH NALLAH

5. ETP



ETP G AREA



SAIL BOLANI
ORE MINES

ENVIRONMENTAL
MONITORING

REPORT

NOVEMBER 2024

Presented By

**Ecomen Mining
Pvt.Ltd**



1.0 PREAMBLE

Steel Authority of India Limited (*hereinafter termed as SAIL*), is a central public sector undertaking under the ownership of Ministry of Steel, Govt. of India has engaged M/s Ecomen Mining Pvt. Ltd., Lucknow, U.P. for carrying out various **Environmental Monitoring and Analysis Work** in its Bolani Ores Mines –RSP located in the district of Keonjhar.

M/s Ecomen Mining Pvt. Ltd. has obtained MoEF & CC Recognition, NABL Accreditation and SPCB, Odisha empanelment for its laboratory division and also a NABET Accredited consultant to carry out EIA/EMP Report for various sectors like Mining, Mineral Beneficiation, Coal Washery, Thermal Power Plant, Metallurgical Industry and Infrastructure & Building Projects etc.

Work Order issued by Bolani Ores Mines-RSP-SAIL vide No-CC/REV/284/2023-24 dated.11.01.2024 for Environmental Monitoring & Analysis Work includes monitoring & analysis of Air Environment, Water Environment, Land Environment such as Ambient Air Quality, Work Zone Air Quality, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. This report presents the Environmental monitoring data collected from the core and buffer zone of Bolani Ores Mines in respect of following Environmental attributes during '**November-2024**' in the given frequency. Further, in compliance of condition no 6 (vi) of the EC Grant order vide J/11015/418/2008-IA.II(M) dated. 21.12.2012 and condition no 7 A(III) of EC Grant order vide J/11015/396/2008-IA.II(M) dated. 21.12.2012 the analysis of air quality monitoring data is done in this report with the objective to see the effectiveness of the mitigative measures already implemented.

Scope of the Work

The scope of work as per the work order for FY-2024-25 is as follows:

Table No. 1.1: Scope of Work

Sl. No.	Particulates	Frequency of monitoring	No. of Stations
1.	Sampling & Analyses for Ambient Air Quality(AAQ) for 5 Parameters i.e. PM 10, PM 2.5, SO ₂ ,NO _x & CO	Daily	04
2.	Sampling & Analyses for Ambient Air Quality (AAQ) for 2 Parameters i.e. PM 10, PM 2.5	Daily	02
3.	Sampling & Analyses of Fugitive dust/Emission (SPM & RSPM)	Daily	10
4.	Sampling & Analyses of Surface/ effluent/ drinking water Quality for 21 parameter	Monthly	08
5.	Sampling and Analyses of ground water quality for 21 parameters	Quarterly	03
6.	Sampling and Analyses of Soil Samples for specified 9 parameters	Yearly	06
7.	Monitoring of weather/meteorological Parameters and continuous generation of data daily round the year by	Daily	01

	establishing online station round the clock throughout the Year		
8.	Smoke Density Monitoring of Vehicular Exhaust	Annually	09
9.	Ground water level Monitoring	Quarterly	03
10.	Nallah/River Flow rate Monitoring	Monthly	03

2.0 DETAILS OF MONITORING/SAMPLING STATIONS:

To carry out the Environmental Data Generation program, ECOMEN in due consultation with SAIL has identified different locations to collect the samples for Air & Water Environment in and around the mining lease area. The details of stations identified are as follows. The details of locations identified for monitoring different environmental parameters are given in the subsequent sections.

2.1 Ambient Air Quality (A)

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. Out of six (06) locations, monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO) at (4) Location and monitoring of Particulate Matter (PM₁₀) and Particulate Matter (PM_{2.5}) was carried out at the rest two (2) Locations as per the guidelines stipulated by Central Pollution Control Board. The locations are as given below.

Table No. 2.1: Details of AAQ Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
Ambient Air Quality (AAQ) for 5 Parameters i.e. PM ₁₀ , PM _{2.5} , SO ₂ ,NOx & CO						
1	Bolani Village Community Center	6.90	Daily	A1	22°5'34.13"N	85°19'33.43"E
2	DAV Public School	6.90		A2	22°7'7.37"N	85°20'16.61"E
3	Main Gate	5.10		A3	22°6'18.18"N	85°19'47.27"E
4	Bolani Mines Office complex	5.10		A4	22°6'23.84"N	85°19'45.40"E
Ambient Air Quality (AAQ) for 2 Parameters i.e. PM ₁₀ , PM _{2.5}						
5	Limtur Village	6.90		A5	22°7'35.14"N	85°21'10.46"E
6	Karo Guest House	6.90		A6	22°05'36.38"N	85°20'32.38"E

2.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring (F)

To assess the level of fugitive dust due to mining and allied activities, ten (10) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out on Daily Basis. The locations are as given below.

Table No. 2.2: Details of Fugitive Emission Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
1	Panposh	5.10	Daily	F1	22°6'41.46"N	85°19'41.60"E
2	D Area	5.10		F2	22°07'19.78"N	85°20'5.70"E
3	F Area	5.10		F3	22°05'45.19"N	85°18'21.95"E
4	G Area	5.10		F4	22°06'3.88"N	85°18'8.22"E
5	Lump Loading Point (near 600TPH)	6.90		F5	22°06'18.79"N	85°19'54.78"E
6	Fines Loading Plant	6.90		F6	22°05'51.12"N	85°19'45.79"E
7	Dump Fines handling route	6.90		F7	22°5'39.31"N	85°19'26.29"E
8	SSP	5.10		F8	22°06'13.80"N	85°19'12.52"E
9	Dump Fines Handling Site	5.10		F9	22°06'09.94"N	85°19'30.61"E
10	Mn Quarry	6.90		F10	22°07'23.56"N	85°21'8.86"E

2.3 Surface/Effluent/Drinking Water Quality:

In order to assess the quality of surface/effluent/drinking water, Eight (8) locations were identified in and around the ML area. Out of eight (8) locations, surface water was taken from four (4) locations, drinking water was taken from two (2) locations and effluent water was taken from two (2) locations. One grab sample was collected from each location in the month and was analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.3: Details of Surface/Effluent/Drinking Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Surface Water Quality				
Panposh Nallah	Monthly Once	SWQ-1	22°6'31.68"N	85°19'34.41"E
Karo Near Lease Boundary		SWQ-2	22°7'26.27" N	85°21'52.95"E
Karo River Intake		SWQ-3	22°5.13.02' N	85°19'57.88"E

Jhikaria nallah before joining Karo		SWQ-4	22°5'22.50" N	85°19'10.05"E
Drinking Water Quality				
Mount Club Tap Water	Monthly Once	DW-1	22°6'56.24" N	85°19'58.21"E
Karo Guest House Tap Water		DW-2	22°5'36.68" N	85°20'32.09"E
Effluent Waste Water				
Oil Catch Pit Water Bottom Garage	Monthly Once	EWV-1	22°6'27.11" N	85°19'37.62"E
Oil Catch pit water G-Area		EWV-2	22°6'1.83"N	85°18'24.16"E

2.4 Ground Water Quality (GWQ)

In order to assess the quality of ground water, three (3) locations were identified in and around the mining lease area. One grab sample is collected from each location quarterly and analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.4: Details of Ground Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Ground Water Quality				
Bolani Village-Well water	Quarterly	GWQ-1	22° 05' 27.20"N	85° 19'27.13"E
Bolani Gouda Basti-Well water		GWQ-2	22° 05'40.97"N	85° 20'2.45"E
Balagoda Village-Well water		GWQ-3	22° 05'57.02"N	85° 20'27.41"E

2.5 Weather/Meteorology

An Automatic Weather Monitoring Station (AWS) is installed at DAV Public School (22°7'7.85"N; 85°20'16.83"E) to collect the meteorological data on daily basis continuously. The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

Table No. 2.5: Details of Meteorological Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
DAV Public School	Daily Basis	M	22°7'7.85"N	85°20'16.83"E

Figure No.1: Location of Monitoring Station with ML Boundary



3.0 RESULTS AND DISCUSSION

3.1 Ambient Air Quality Monitoring

The Summarized results of AAQ for the month of November-2024 are given in the Table below

Table No. 3.1 (a): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	PM ₁₀			PM _{2.5}		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community center	A1	76.9	62.6	70.00	26.9	19.2	23.10
2.	Dav Public School	A2	76.9	63.9	70.21	26.5	19.9	23.64
3.	Main Gate	A3	76.8	62.5	69.78	26.6	19.5	22.61
4.	Bolani Mines Office Complex	A4	76.5	62.7	70.05	26.9	19.2	22.95
5.	Limtur Village	A5	54.00	42.10	47.56	25.90	18.60	22.22
6.	Karo Guest House	A6	53.50	42.30	47.76	25.90	18.40	22.37
CPCB Std.			100 µg/m ³			60 µg/m ³		

Table No. 3.1(b): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	SO ₂			NO _x		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	22.3	14	18.13	19.8	13	16.39
2.	Dav Public School	A2	22.8	14.1	18.75	20	13.3	16.41
3.	Main Gate	A3	22.5	14.1	18.04	19.7	13.8	17.33
4.	Bolani Mines Office Complex	A4	22.2	14	18.35	19.8	13.1	16.77
CPCB Std.			80 µg/m ³			80 µg/m ³		

BDL of SO₂ ≤ 4 µg/m³, BDL of NO_x ≤ 9 µg/m³

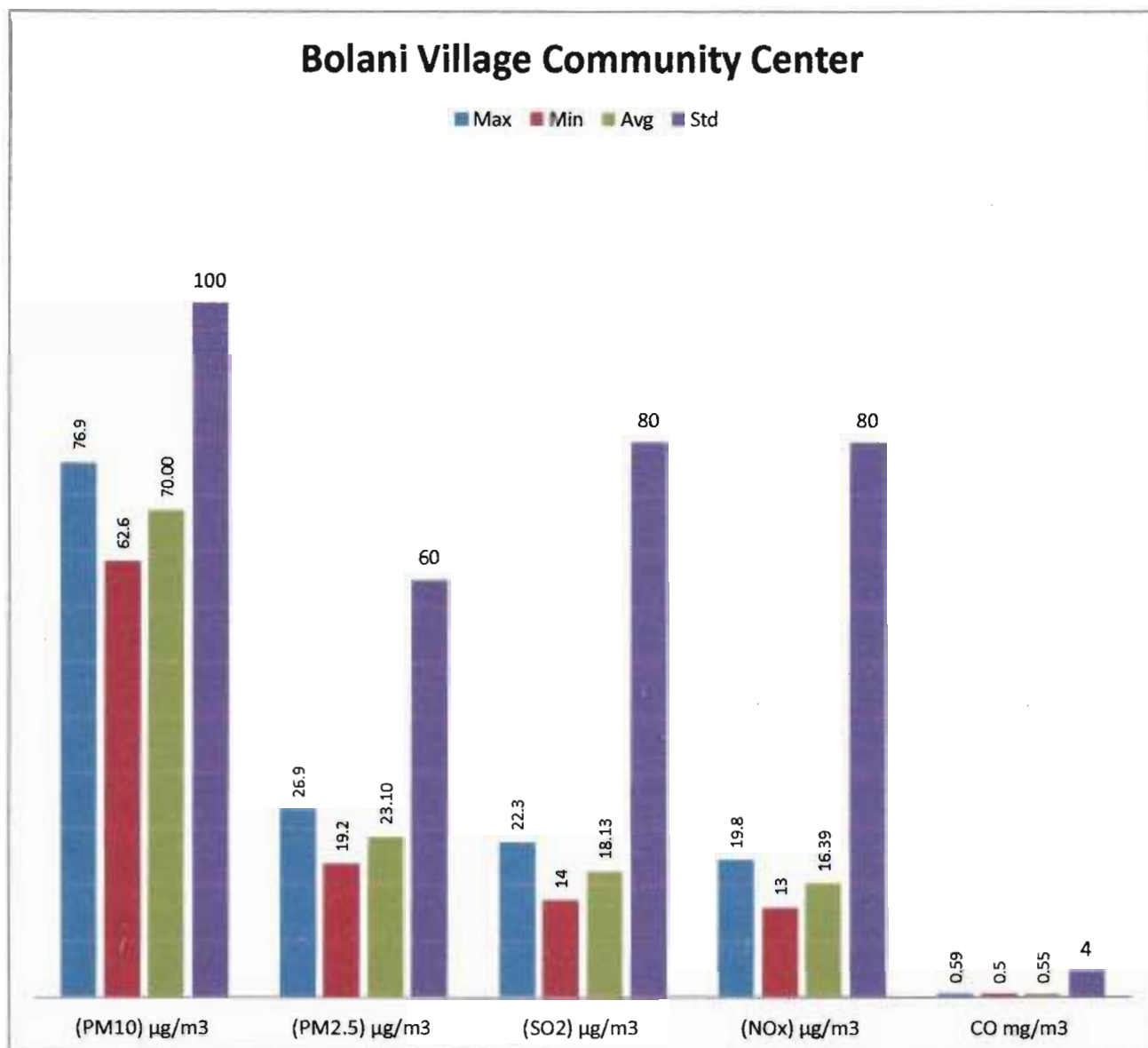
Table No. 3.1(c): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	CO		
			Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	0.59	0.5	0.55
2.	Dav Public School	A2	0.61	0.49	0.54
3.	Main Gate	A3	0.62	0.49	0.56
4.	Bolani Mines Office Complex	A4	0.62	0.49	0.55
CPCB Std.			4 mg/m ³		

Note: BDL value for CO-0.11 mg/m³

3.1.1 Bolani village Community Center (A1):

The pollution level in Bolani village Community Center for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **76.9** µg/m³ whereas minimum concentration was observed **62.6** µg/m³ during the month. PM_{2.5} concentration ranges between **19.2** µg/m³ to **26.9** µg/m³, SO₂ concentration ranges between **14** µg/m³ to **22.3** µg/m³, NO_x concentration ranges between **13** µg/m³ to **19.8** µg/m³ and CO concentration ranges between **0.5** mg/m³ to **0.59** mg/m³ was observed during the month





ECOMEN MINING PRIVATE LIMITED

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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/61

Test Report Issue date: 05.12.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines , At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-1: Bolani village Community Center
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.11.2024	76.3	25.4	20.1	13.9	0.54
2.	02.11.2024	76.7	20.1	16.4	17.6	0.50
3.	03.11.2024	67.4	20.8	21.5	15.0	0.57
4.	04.11.2024	67.5	21.4	21.5	17.4	0.55
5.	05.11.2024	66.0	21.2	16.7	15.4	0.51
6.	06.11.2024	66.2	19.2	16.4	15.5	0.50
7.	07.11.2024	65.2	20.6	16.7	19.7	0.57
8.	08.11.2024	63.6	26.9	15.3	19.2	0.59
9.	09.11.2024	72.0	20.8	20.7	19.5	0.59
10.	10.11.2024	76.9	22.9	20.7	13.4	0.50
11.	11.11.2024	76.6	25.7	20.6	14.9	0.56
12.	12.11.2024	74.8	25.7	20.3	14.7	0.53
13.	13.11.2024	74.9	26.4	17.2	18.0	0.56
14.	14.11.2024	68.8	20.7	16.4	14.3	0.58
15.	15.11.2024	70.4	26.9	14.0	18.5	0.57
16.	16.11.2024	65.4	19.7	16.4	15.3	0.53
17.	17.11.2024	67.8	26.8	16.0	16.2	0.55
18.	18.11.2024	74.1	26.8	16.3	18.7	0.52
19.	19.11.2024	70.5	23.8	19.3	15.2	0.52
20.	20.11.2024	74.0	22.3	14.1	14.4	0.56
21.	21.11.2024	74.9	26.2	19.3	14.0	0.59
22.	22.11.2024	72.8	26.8	16.2	18.6	0.59
23.	23.11.2024	70.1	24.0	21.4	17.9	0.51
24.	24.11.2024	64.1	24.9	22.3	15.6	0.54
25.	25.11.2024	62.6	26.1	21.9	13.0	0.54
26.	26.11.2024	65.7	20.3	22.2	15.6	0.58
27.	27.11.2024	71.4	19.2	17.8	18.6	0.59
28.	28.11.2024	63.6	21.0	16.3	18.5	0.50
29.	29.11.2024	76.4	19.8	14.3	13.2	0.53
30.	30.11.2024	63.3	20.5	15.6	19.8	0.54
Average		69.5	23.0	18.0	16.2	0.55

----End of Report----

Verified By

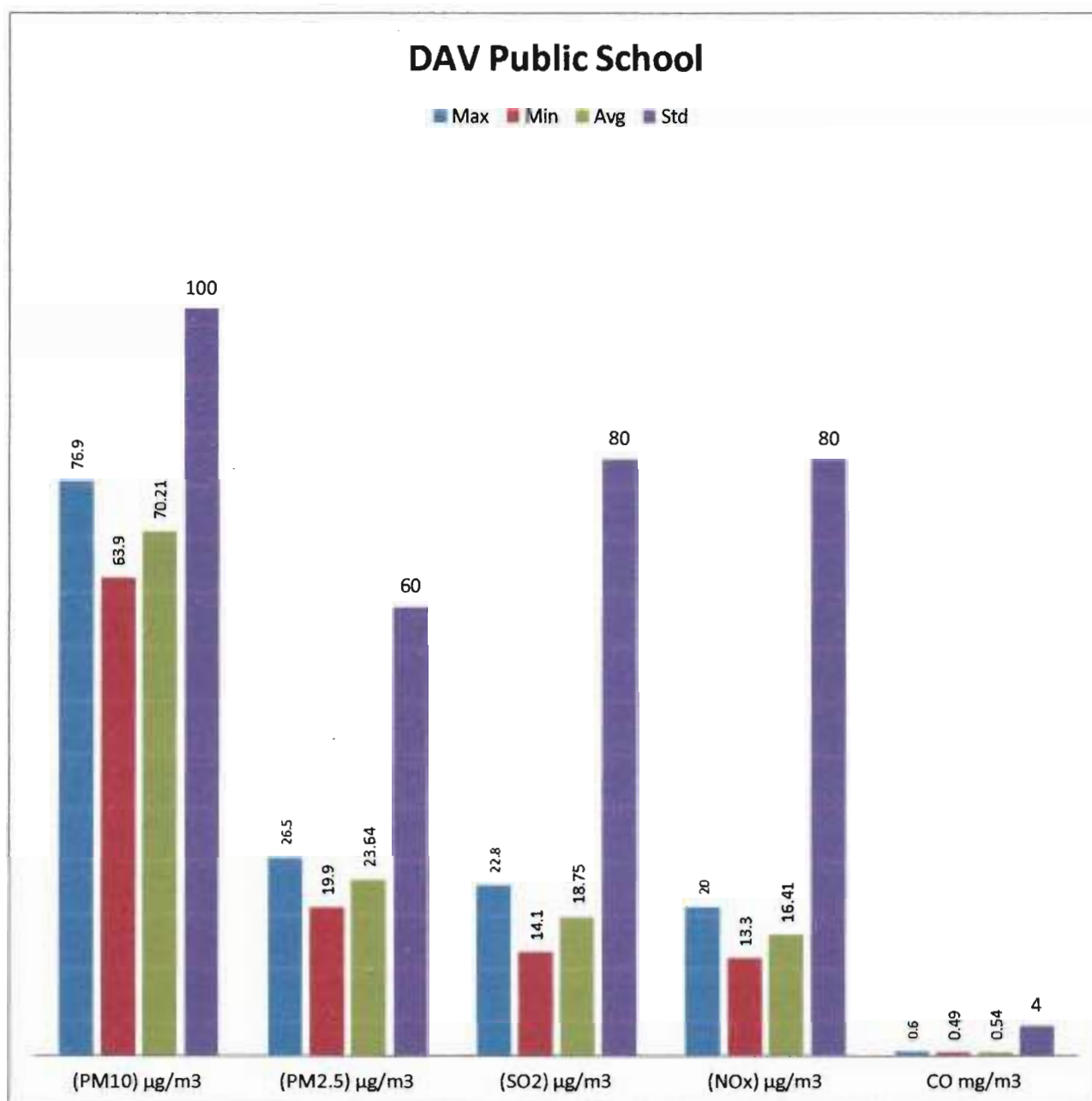
Technical Manager

Authorized By

Quality Manager

3.1.2 DAV Public School (A2):

The pollution level in DAV Public School for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **76.9** µg/m³ whereas minimum concentration was observed **63.9** µg/m³ during the month. PM_{2.5} concentration ranges between **19.9** µg/m³ to **26.5** µg/m³, SO₂ concentration ranges between **14.1** µg/m³ to **22.8** µg/m³, NO_x concentration ranges between **13.3** µg/m³ to **20** µg/m³ and CO concentration ranges between **0.49** mg/m³ to **0.60** mg/m³ was observed during the month





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/62

Test Report Issue date: 05.12.2024

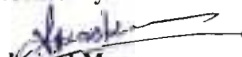
AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-2: DAV Public School
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.11.2024	68.6	25.1	14.8	17.4	0.53
2.	02.11.2024	65.6	26.4	20.3	14.2	0.51
3.	03.11.2024	75.7	25.3	21.6	15.1	0.60
4.	04.11.2024	67.4	21.3	14.1	16.0	0.59
5.	05.11.2024	70.1	22.1	18.4	18.3	0.50
6.	06.11.2024	64.0	24.2	22.4	17.2	0.50
7.	07.11.2024	71.1	25.4	18.6	15.3	0.55
8.	08.11.2024	65.7	26.2	16.5	14.5	0.51
9.	09.11.2024	76.9	22.5	20.5	18.2	0.50
10.	10.11.2024	75.7	26.5	21.6	20.0	0.58
11.	11.11.2024	66.6	20.7	19.1	13.3	0.59
12.	12.11.2024	65.7	20.5	22.0	19.8	0.53
13.	13.11.2024	75.1	24.6	17.2	16.5	0.49
14.	14.11.2024	72.1	21.5	16.3	17.1	0.58
15.	15.11.2024	69.5	20.1	22.8	19.9	0.57
16.	16.11.2024	74.0	23.4	18.1	14.2	0.58
17.	17.11.2024	76.2	24.4	14.9	18.4	0.57
18.	18.11.2024	63.9	23.4	17.7	13.4	0.51
19.	19.11.2024	67.7	25.8	22.5	13.6	0.58
20.	20.11.2024	74.6	20.8	21.4	14.3	0.54
21.	21.11.2024	65.1	24.1	22.3	15.0	0.49
22.	22.11.2024	74.6	23.0	15.3	16.7	0.53
23.	23.11.2024	74.5	26.1	18.5	17.1	0.51
24.	24.11.2024	66.3	21.6	19.8	19.2	0.57
25.	25.11.2024	65.1	25.1	15.3	14.5	0.50
26.	26.11.2024	64.5	22.6	14.5	16.4	0.50
27.	27.11.2024	74.8	24.1	17.5	14.5	0.55
28.	28.11.2024	64.1	26.3	15.8	17.4	0.51
29.	29.11.2024	75.1	19.9	20.6	15.6	0.50
30.	30.11.2024	76.1	26.3	22.1	19.2	0.59
Average		69.7	23.5	18.6	16.3	0.54

----End of Report----

Verified By

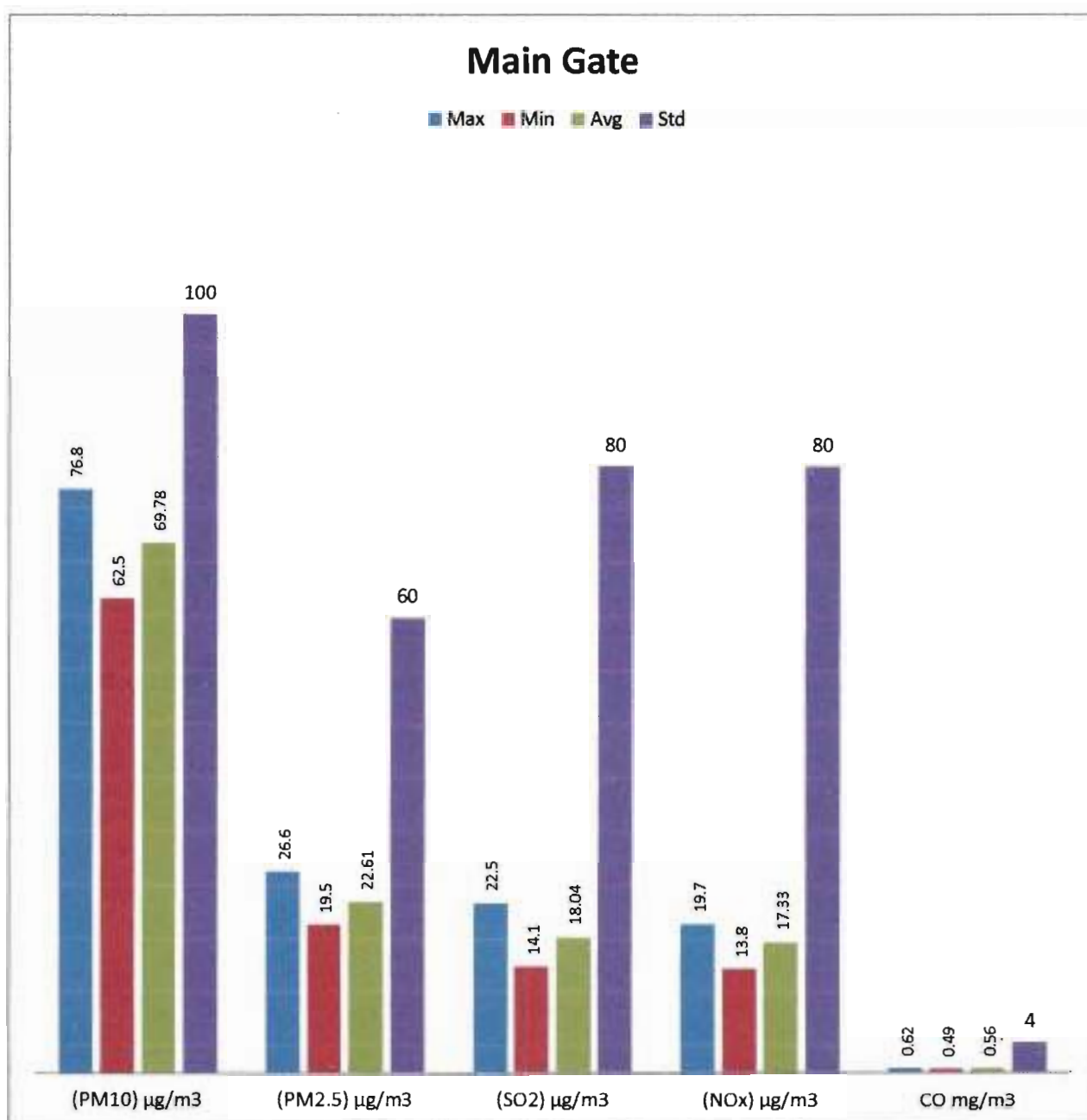

Technical Manager

Authorized By


Quality Manager


3.1.3 Main Gate (A3):

The pollution level in Main Gate for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **76.8** µg/m³ whereas minimum concentration was observed **62.5** µg/m³ during the month. PM_{2.5} concentration ranges between **19.5** µg/m³ to **26.6** µg/m³, SO₂ concentration ranges between **14.1** µg/m³ to **22.5** µg/m³, NO_x concentration ranges between **13.8** µg/m³ to **19.7** µg/m³ and CO concentration ranges between **0.49** mg/m³ to **0.62** mg/m³ was observed during the month





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Test Report No: ECO/BOM/AAQ/63

Test Report Issue date: 05.12.2024

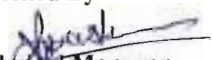
AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-3: Main Gate
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.11.2024	74.9	19.7	22.5	15.1	0.53
2.	02.11.2024	68.1	22.0	17.8	18.6	0.49
3.	03.11.2024	74.5	20.8	14.1	19.5	0.52
4.	04.11.2024	68.1	19.8	17.3	19.5	0.57
5.	05.11.2024	67.2	19.7	14.6	15.5	0.57
6.	06.11.2024	62.5	26.0	17.8	18.7	0.60
7.	07.11.2024	68.0	25.4	20.7	17.2	0.50
8.	08.11.2024	66.6	22.6	17.5	14.3	0.60
9.	09.11.2024	63.6	19.9	19.9	15.7	0.54
10.	10.11.2024	64.4	23.2	18.2	14.8	0.53
11.	11.11.2024	67.7	20.4	15.8	13.8	0.59
12.	12.11.2024	72.4	25.1	17.5	19.1	0.58
13.	13.11.2024	70.3	20.1	17.0	18.0	0.57
14.	14.11.2024	76.8	25.4	15.6	14.6	0.54
15.	15.11.2024	69.8	20.2	17.7	19.7	0.57
16.	16.11.2024	69.5	23.7	18.1	17.2	0.57
17.	17.11.2024	74.9	23.7	17.6	16.8	0.54
18.	18.11.2024	67.5	25.2	22.3	19.3	0.60
19.	19.11.2024	68.8	21.7	15.0	19.0	0.50
20.	20.11.2024	63.4	23.0	19.4	16.8	0.58
21.	21.11.2024	74.3	26.6	19.8	15.8	0.55
22.	22.11.2024	76.5	24.7	22.3	17.0	0.55
23.	23.11.2024	64.5	19.5	19.3	18.9	0.59
24.	24.11.2024	75.2	25.1	20.2	19.2	0.58
25.	25.11.2024	65.6	23.2	21.3	17.3	0.54
26.	26.11.2024	70.2	22.5	14.5	17.7	0.53
27.	27.11.2024	71.4	23.0	14.9	16.6	0.58
28.	28.11.2024	70.3	22.1	14.4	19.2	0.54
29.	29.11.2024	73.3	22.7	16.2	15.7	0.54
30.	30.11.2024	73.1	21.4	22.0	19.3	0.56
Average		69.3	22.5	17.9	17.2	0.55

-----End of Report-----

Verified By

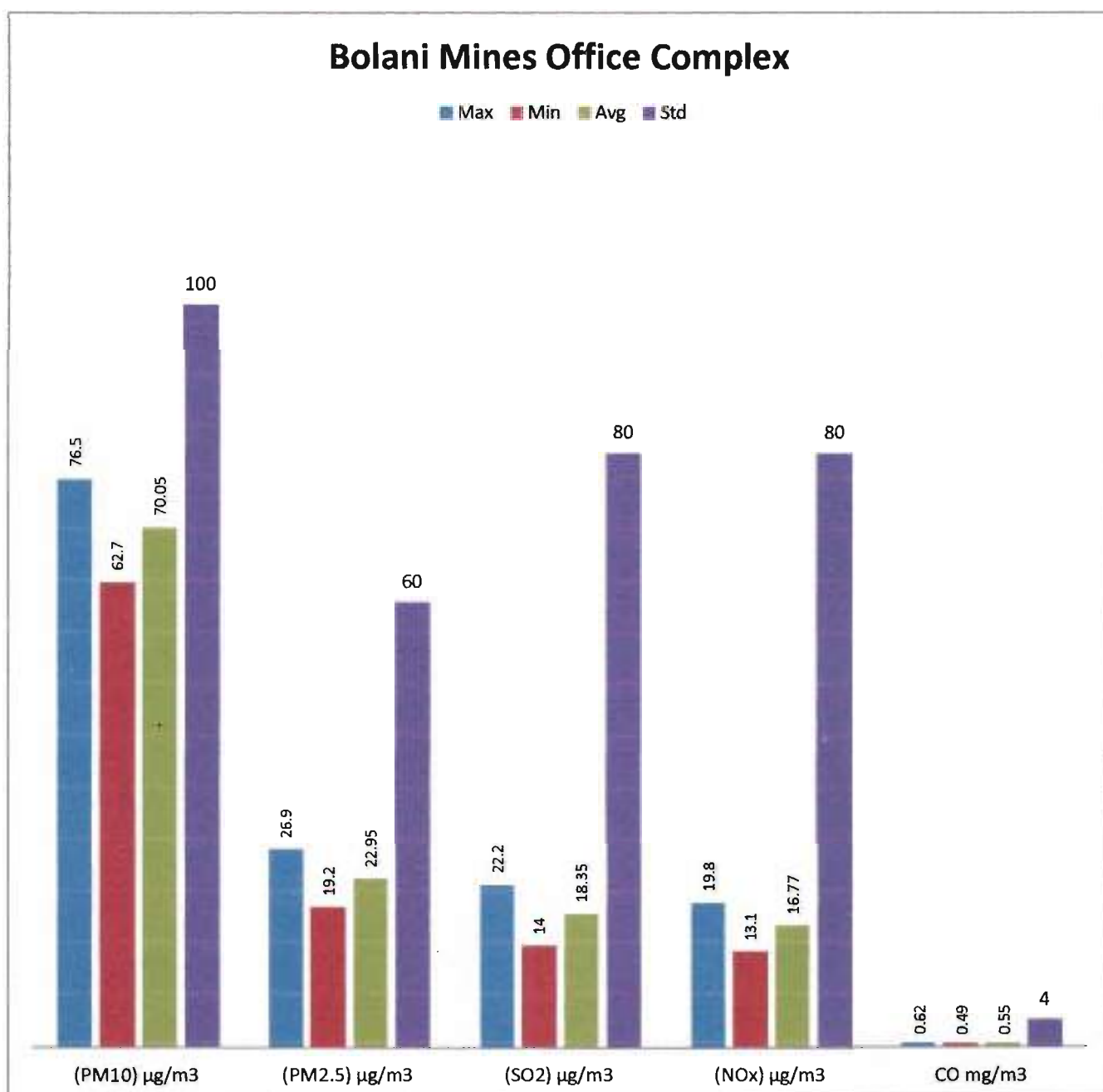

Technical Manager

Authorized By


Quality Manager


3.1.4 Bolani Mines Office Complex (A4):

The pollution level in Bolani Mines Office Complex for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **76.5** µg/m³ whereas minimum concentration was observed **62.7** µg/m³ during the month. PM_{2.5} concentration ranges between **19.2** µg/m³ to **26.9** µg/m³, SO₂ concentration ranges between **14** µg/m³ to **22.2** µg/m³, NO_x concentration ranges between **13.1** µg/m³ to **19.8** µg/m³ and CO concentration ranges between **0.49** mg/m³ to **0.62** mg/m³ was observed during the month





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/64

Test Report Issue date: 05.12.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-4: Bolani Mines Office Complex
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.11.2024	75.0	20.3	22.1	13.4	0.54
2.	02.11.2024	70.6	22.8	21.9	14.8	0.56
3.	03.11.2024	68.6	26.5	17.6	19.8	0.49
4.	04.11.2024	62.7	21.0	18.2	18.5	0.53
5.	05.11.2024	71.8	23.6	18.4	13.1	0.53
6.	06.11.2024	76.5	26.2	20.5	18.3	0.58
7.	07.11.2024	73.2	22.7	19.2	16.1	0.49
8.	08.11.2024	71.2	21.4	17.9	14.1	0.53
9.	09.11.2024	74.6	20.8	14.3	15.2	0.49
10.	10.11.2024	64.5	20.3	20.6	14.2	0.58
11.	11.11.2024	72.0	24.9	21.6	19.6	0.50
12.	12.11.2024	66.8	22.6	15.0	15.7	0.57
13.	13.11.2024	74.5	20.7	21.7	19.3	0.59
14.	14.11.2024	70.7	25.0	17.4	16.8	0.57
15.	15.11.2024	75.2	23.7	19.5	18.1	0.54
16.	16.11.2024	63.5	22.5	15.8	19.1	0.55
17.	17.11.2024	63.9	23.6	19.7	13.5	0.53
18.	18.11.2024	72.4	20.5	17.3	18.9	0.55
19.	19.11.2024	72.5	21.1	15.8	19.2	0.50
20.	20.11.2024	67.8	23.6	19.7	16.1	0.57
21.	21.11.2024	64.0	22.2	22.0	13.8	0.55
22.	22.11.2024	76.0	23.4	15.8	17.1	0.60
23.	23.11.2024	65.7	23.3	17.1	18.6	0.57
24.	24.11.2024	76.2	20.3	14.2	19.6	0.60
25.	25.11.2024	67.6	26.9	15.4	15.3	0.51
26.	26.11.2024	71.0	19.2	19.6	15.6	0.49
27.	27.11.2024	68.4	26.7	21.9	16.4	0.54
28.	28.11.2024	69.7	20.4	14.1	17.9	0.59
29.	29.11.2024	71.4	26.9	14.0	15.6	0.59
30.	30.11.2024	63.4	25.5	22.2	19.3	0.51
Average		69.5	22.8	18.2	16.6	0.54

----End of Report----

Verified By

Technical Manager

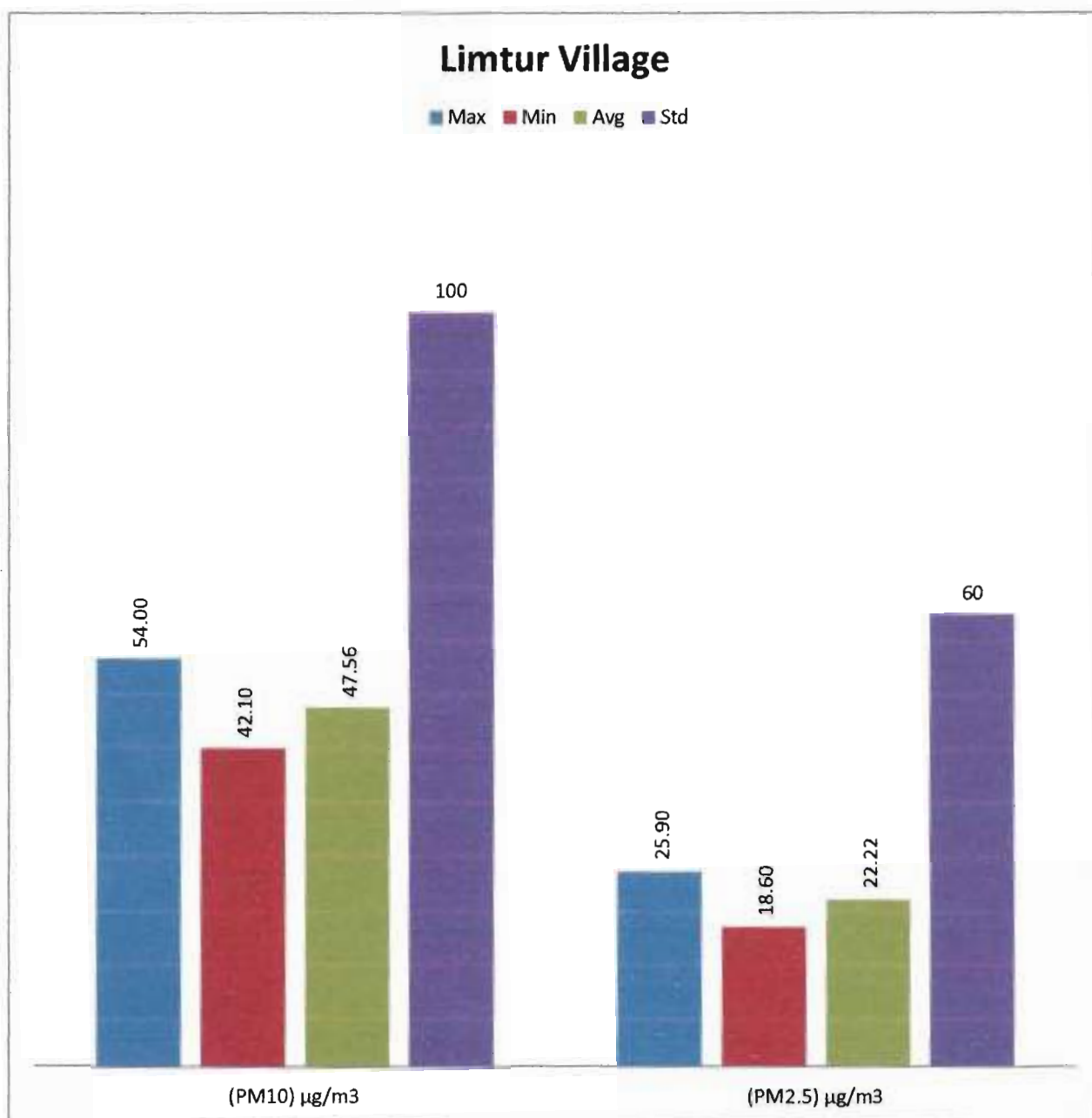
Authorized By

Quality Manager



3.1.5 Limtur Village (A5):

The pollution level in Limtur Village for the parameters PM₁₀ and PM_{2.5} is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **54.0** µg/m³ whereas minimum concentration was observed **42.10** µg/m³ and PM_{2.5} concentration ranges between **18.60** µg/m³ to **25.90** µg/m³ during the month.





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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/65

Test Report Issue date: 05.12.2024

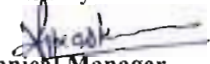
AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-5: Limtur Village
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.11.2024	45.7	22.0
2.	02.11.2024	44.8	18.9
3.	03.11.2024	47.0	20.4
4.	04.11.2024	43.1	22.7
5.	05.11.2024	48.4	23.5
6.	06.11.2024	45.7	24.3
7.	07.11.2024	53.9	19.0
8.	08.11.2024	45.1	18.6
9.	09.11.2024	45.0	21.3
10.	10.11.2024	43.9	22.9
11.	11.11.2024	51.7	23.1
12.	12.11.2024	54.0	22.7
13.	13.11.2024	52.7	22.6
14.	14.11.2024	47.4	21.4
15.	15.11.2024	49.0	19.7
16.	16.11.2024	50.7	24.1
17.	17.11.2024	48.8	24.6
18.	18.11.2024	42.8	24.9
19.	19.11.2024	42.1	19.8
20.	20.11.2024	53.6	20.4
21.	21.11.2024	47.9	21.8
22.	22.11.2024	47.3	25.3
23.	23.11.2024	49.1	25.9
24.	24.11.2024	43.7	25.7
25.	25.11.2024	53.5	20.1
26.	26.11.2024	42.2	21.7
27.	27.11.2024	46.0	20.5
28.	28.11.2024	45.8	22.3
29.	29.11.2024	48.4	21.4
30.	30.11.2024	47.4	25.1
Average		47.7	22.1

----End of Report----

Verified By

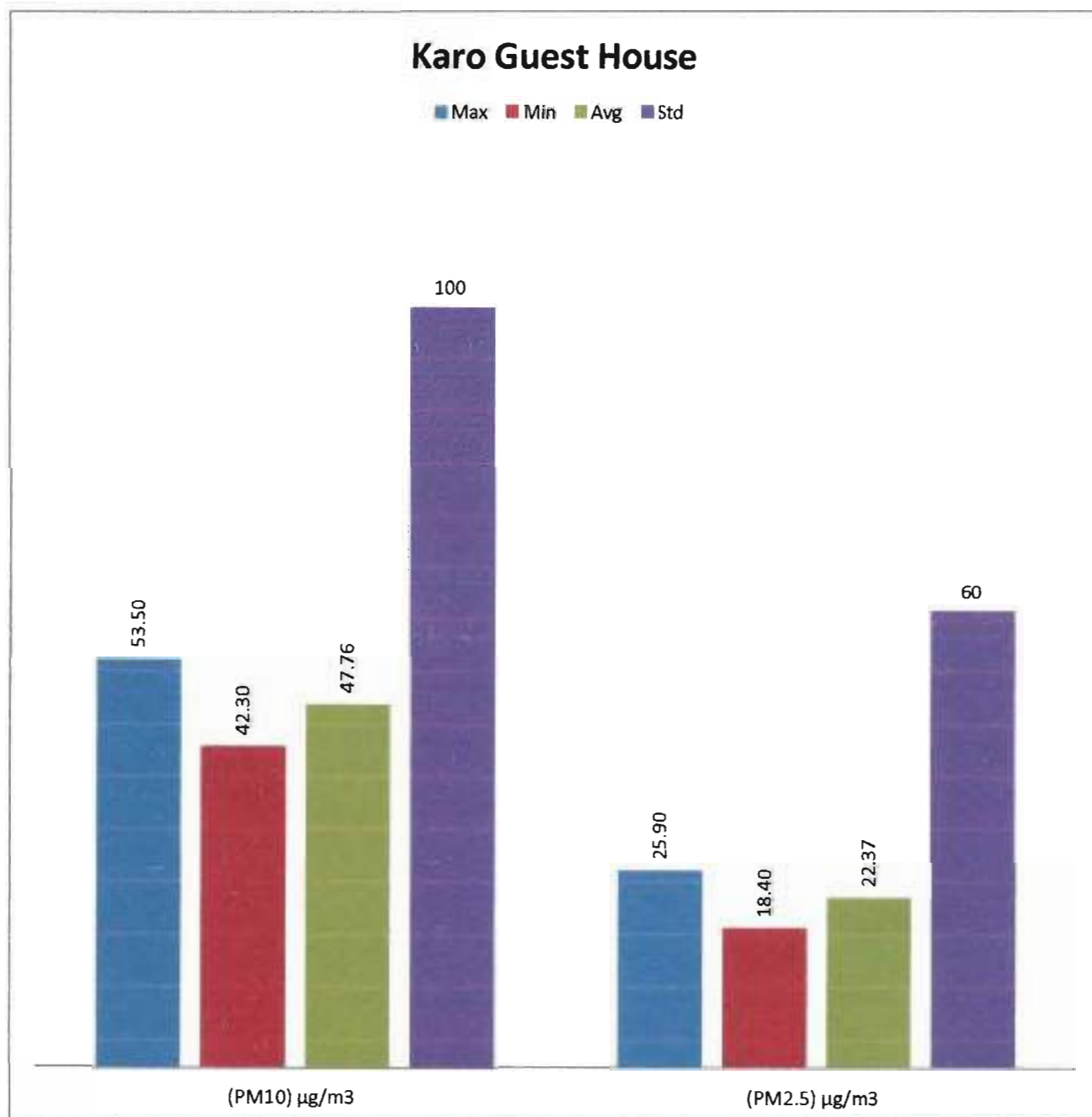

Technical Manager

Authorized By


Quality Manager


3.1.6 Karo Guest House (A6):

The pollution level in Karo Guest House for the parameters PM₁₀ and PM_{2.5} is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **53.50** µg/m³ whereas minimum concentration was observed **42.30** µg/m³ and PM_{2.5} concentration ranges between **18.40** µg/m³ to **25.90** µg/m³ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

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Test Report Issue date: 05.12.2024

AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-6: Karo Guest House
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.11.2024	48.6	19.5
2.	02.11.2024	50.8	24.0
3.	03.11.2024	47.3	22.7
4.	04.11.2024	43.5	20.7
5.	05.11.2024	53.3	18.8
6.	06.11.2024	47.8	25.9
7.	07.11.2024	48.7	24.7
8.	08.11.2024	44.4	24.2
9.	09.11.2024	52.8	20.3
10.	10.11.2024	44.9	21.3
11.	11.11.2024	46.4	21.0
12.	12.11.2024	44.2	23.5
13.	13.11.2024	43.8	25.5
14.	14.11.2024	46.5	23.1
15.	15.11.2024	42.3	25.5
16.	16.11.2024	45.4	21.4
17.	17.11.2024	46.8	23.5
18.	18.11.2024	48.7	18.8
19.	19.11.2024	45.8	25.8
20.	20.11.2024	47.7	23.8
21.	21.11.2024	46.0	21.0
22.	22.11.2024	51.0	19.5
23.	23.11.2024	44.4	18.4
24.	24.11.2024	46.0	25.0
25.	25.11.2024	53.5	25.1
26.	26.11.2024	48.0	20.1
27.	27.11.2024	51.5	25.5
28.	28.11.2024	53.4	22.4
29.	29.11.2024	52.0	20.7
30.	30.11.2024	47.2	19.3
Average		47.9	22.3

----End of Report----

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3.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring:

The Summarized results of Work Zone Air Quality/Fugitive Dust Emission for the month of November-2024 are given in the **Table below**

Table No. 3.2: Summarized Results of Work Zone Air Quality/Fugitive Dust Emission

Sl. No.	Location Name	Station Code	SPM $\mu\text{g}/\text{m}^3$			RSPM $\mu\text{g}/\text{m}^3$		
			Max.	Min.	Avg.	Max.	Min	Avg.
1.	Panposh	F1	687.3	596.5	632.5	142.1	108.8	124.7
2.	D Area	F2	688.9	595.8	651.9	141.5	116.1	129.5
3.	F Area	F3	683	598	641.6	140.1	109.5	124.8
4.	G Area	F4	684.9	595.6	636.1	137.1	108.8	124.4
5.	Lump Loading Point (near 600TPH)	F5	687.6	600.8	649.0	142.2	111	127.3
6.	Fines Loading Plant	F6	684.2	596.5	639.3	138.1	113.8	125.2
7.	Dump Fines handling route	F7	684.7	598.7	644.7	140.6	115.1	126.4
8.	SSP	F8	686.1	596.1	638.8	140.1	109.1	123.7
9.	Dump Fines Handling Site	F9	686.5	607.5	647.7	140.7	114.1	126.6
10.	Mn Quarry	F10	686.4	596.1	635.1	138.4	109.3	122.0
As Per CTO Std.			1200 $\mu\text{g}/\text{m}^3$					



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/81

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Panposh**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Panposh	672.8	139.5
2.	02-11-2024	Panposh	687.3	141.5
3.	03-11-2024	Panposh	598.2	119.6
4.	04-11-2024	Panposh	605.7	117.0
5.	05-11-2024	Panposh	654.3	119.1
6.	06-11-2024	Panposh	607.6	112.0
7.	07-11-2024	Panposh	621.0	129.4
8.	08-11-2024	Panposh	605.3	114.1
9.	09-11-2024	Panposh	645.5	132.2
10.	10-11-2024	Panposh	635.6	131.6
11.	11-11-2024	Panposh	664.5	120.4
12.	12-11-2024	Panposh	611.5	127.7
13.	13-11-2024	Panposh	603.1	108.8
14.	14-11-2024	Panposh	621.9	121.7
15.	15-11-2024	Panposh	620.3	123.0
16.	16-11-2024	Panposh	596.5	119.2
17.	17-11-2024	Panposh	655.8	125.3
18.	18-11-2024	Panposh	675.6	139.5
19.	19-11-2024	Panposh	632.5	120.1
20.	20-11-2024	Panposh	620.2	125.6
21.	21-11-2024	Panposh	613.4	112.0
22.	22-11-2024	Panposh	662.2	130.8
23.	23-11-2024	Panposh	624.4	124.4
24.	24-11-2024	Panposh	640.7	129.6
25.	25-11-2024	Panposh	597.4	114.4
26.	26-11-2024	Panposh	662.6	132.4
27.	27-11-2024	Panposh	617.6	127.7
28.	28-11-2024	Panposh	626.1	128.7
29.	29-11-2024	Panposh	611.5	110.4
30.	30-11-2024	Panposh	683.0	142.1
Average			632.5	124.7

----End of Report----

Verified By

Technical Manager

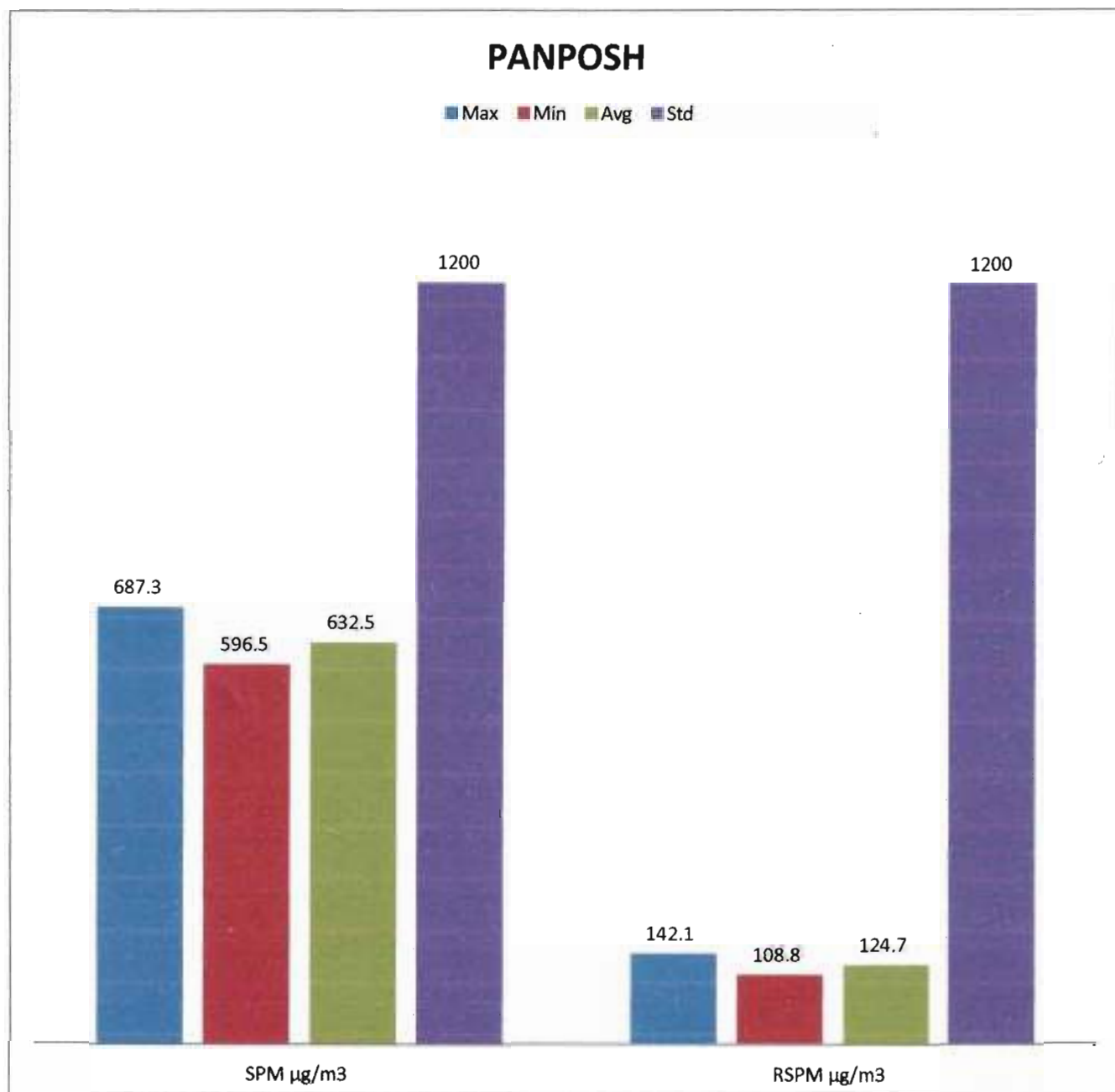
Authorized By

Quality Manager



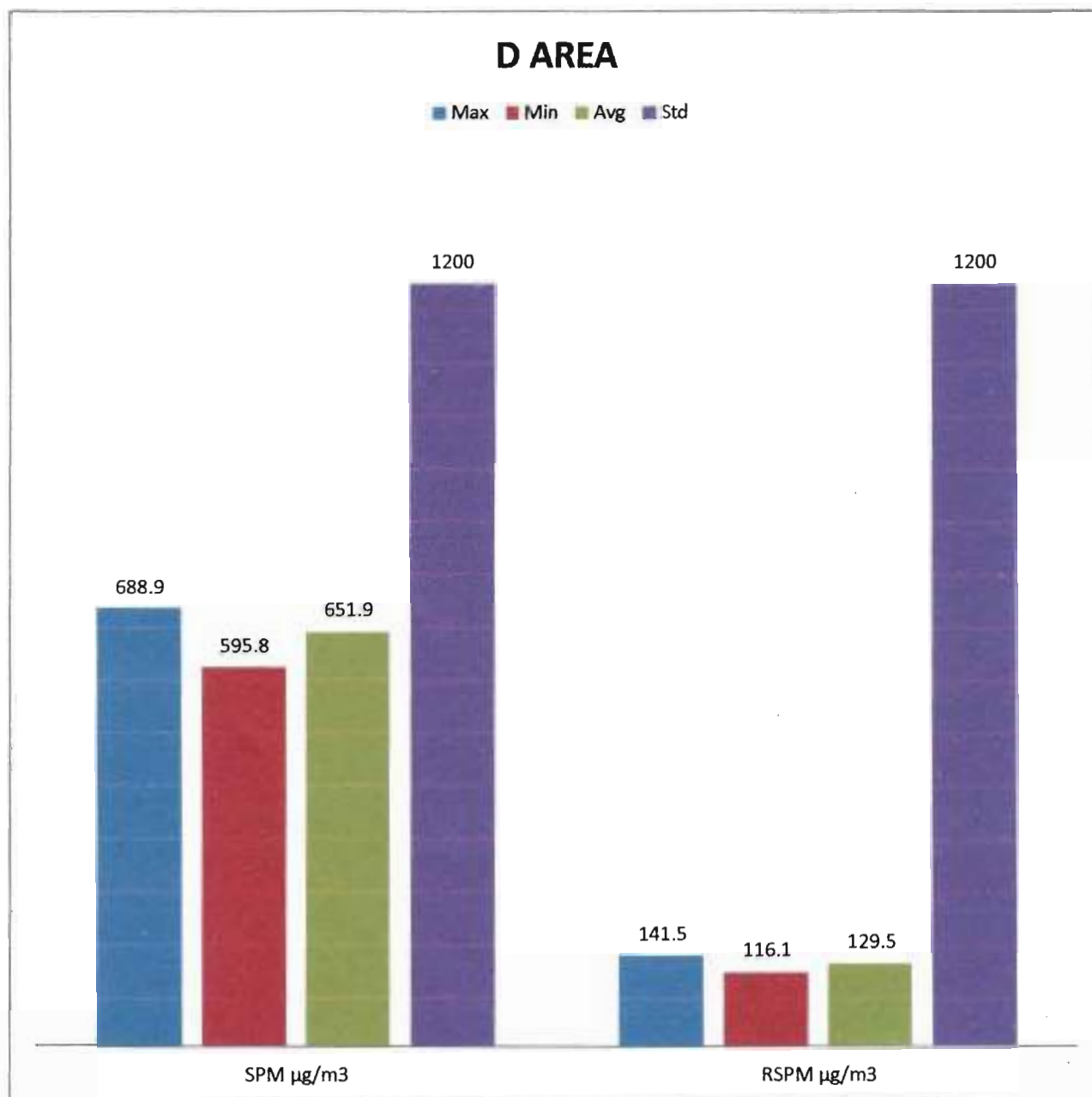
3.2.1 Panposh (F1):

The pollution level in Panposh Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **687.3** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **596.5** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.8** $\mu\text{g}/\text{m}^3$ to **142.1** $\mu\text{g}/\text{m}^3$ during the month.



3.2.2 D Area(F2)

The pollution level in D Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **688.9** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **595.8** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **116.1** $\mu\text{g}/\text{m}^3$ to **141.5** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/82

Test Report Issue date: 05.12.2024

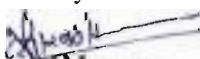
FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **D Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	D Area	612.8	116.1
2.	02-11-2024	D Area	672.6	132.1
3.	03-11-2024	D Area	635.2	121.3
4.	04-11-2024	D Area	637.9	120.1
5.	05-11-2024	D Area	668.9	125.9
6.	06-11-2024	D Area	622.5	124.0
7.	07-11-2024	D Area	626.2	129.7
8.	08-11-2024	D Area	674.9	135.5
9.	09-11-2024	D Area	619.1	124.0
10.	10-11-2024	D Area	659.9	131.8
11.	11-11-2024	D Area	610.4	121.9
12.	12-11-2024	D Area	656.4	132.5
13.	13-11-2024	D Area	613.1	122.9
14.	14-11-2024	D Area	672.3	134.4
15.	15-11-2024	D Area	688.1	137.0
16.	16-11-2024	D Area	652.2	120.3
17.	17-11-2024	D Area	667.4	125.2
18.	18-11-2024	D Area	678.3	130.1
19.	19-11-2024	D Area	684.8	141.5
20.	20-11-2024	D Area	679.9	138.9
21.	21-11-2024	D Area	688.9	136.5
22.	22-11-2024	D Area	656.3	122.3
23.	23-11-2024	D Area	677.9	137.9
24.	24-11-2024	D Area	629.3	124.2
25.	25-11-2024	D Area	652.1	131.3
26.	26-11-2024	D Area	595.8	124.4
27.	27-11-2024	D Area	663.3	134.2
28.	28-11-2024	D Area	667.5	140.1
29.	29-11-2024	D Area	653.0	135.8
30.	30-11-2024	D Area	641.4	133.3
Average			652.0	129.5

----End of Report----

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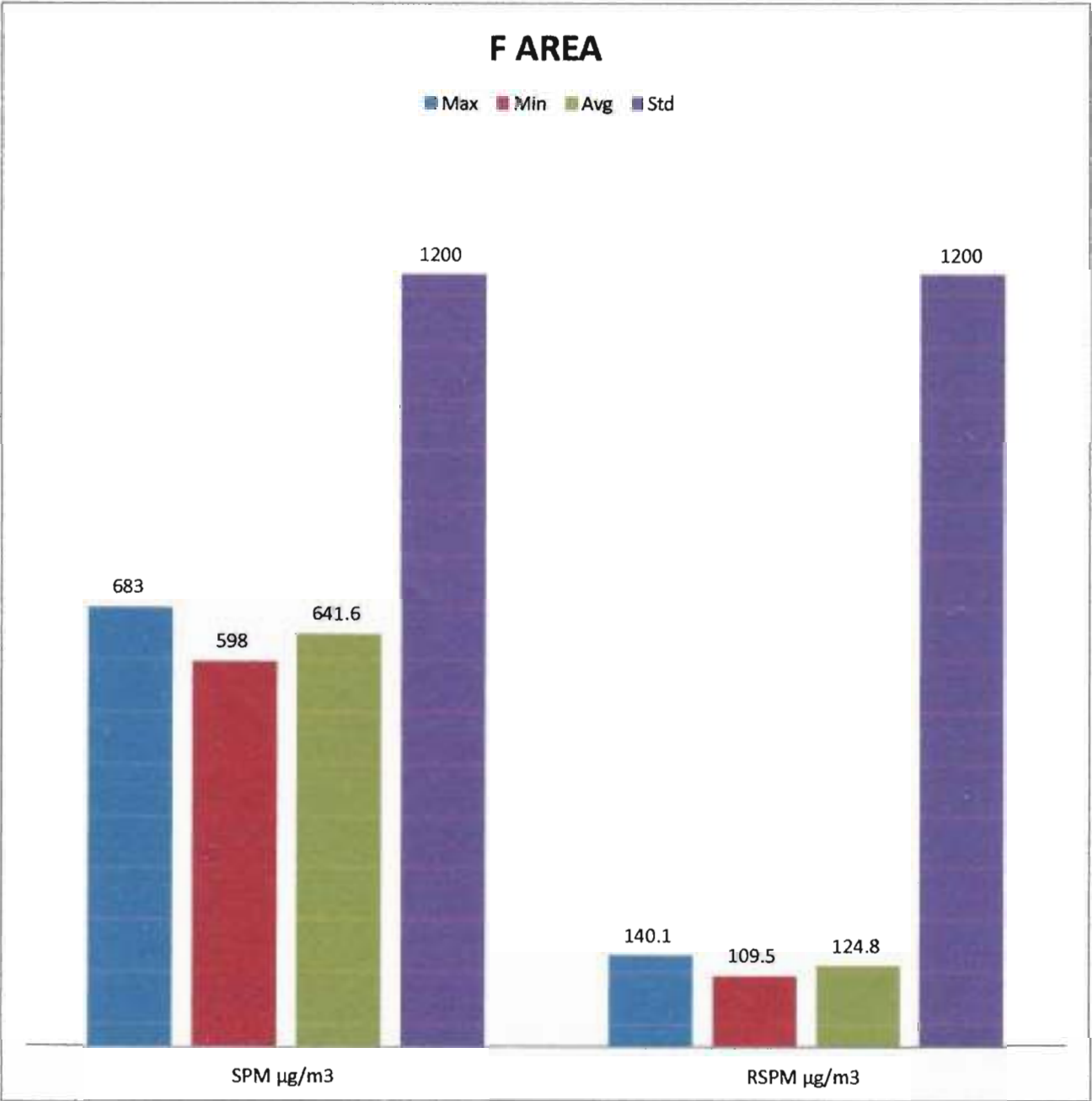

Technical Manager

Authorized By


Quality Manager

3.2.3 F Area(F3)

The pollution level in F Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **683** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **598** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **109.5** $\mu\text{g}/\text{m}^3$ to **140.1** $\mu\text{g}/\text{m}^3$ during the month



Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/83

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **F Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	F Area	665.1	126.5
2.	02-11-2024	F Area	658.5	132.9
3.	03-11-2024	F Area	606.1	109.5
4.	04-11-2024	F Area	637.1	127.3
5.	05-11-2024	F Area	676.7	126.4
6.	06-11-2024	F Area	676.2	140.1
7.	07-11-2024	F Area	626.9	112.9
8.	08-11-2024	F Area	683.0	138.4
9.	09-11-2024	F Area	657.3	137.2
10.	10-11-2024	F Area	622.4	125.7
11.	11-11-2024	F Area	601.6	115.9
12.	12-11-2024	F Area	626.4	113.9
13.	13-11-2024	F Area	665.1	122.4
14.	14-11-2024	F Area	679.8	126.0
15.	15-11-2024	F Area	622.0	113.9
16.	16-11-2024	F Area	651.7	131.0
17.	17-11-2024	F Area	641.9	123.7
18.	18-11-2024	F Area	610.4	111.2
19.	19-11-2024	F Area	637.9	121.2
20.	20-11-2024	F Area	656.3	127.3
21.	21-11-2024	F Area	598.0	118.8
22.	22-11-2024	F Area	635.2	126.6
23.	23-11-2024	F Area	649.9	124.8
24.	24-11-2024	F Area	638.8	133.7
25.	25-11-2024	F Area	643.1	128.4
26.	26-11-2024	F Area	601.1	122.5
27.	27-11-2024	F Area	606.8	124.9
28.	28-11-2024	F Area	658.8	132.5
29.	29-11-2024	F Area	672.3	133.2
30.	30-11-2024	F Area	641.6	116.3
Average			641.6	124.8

----End of Report----

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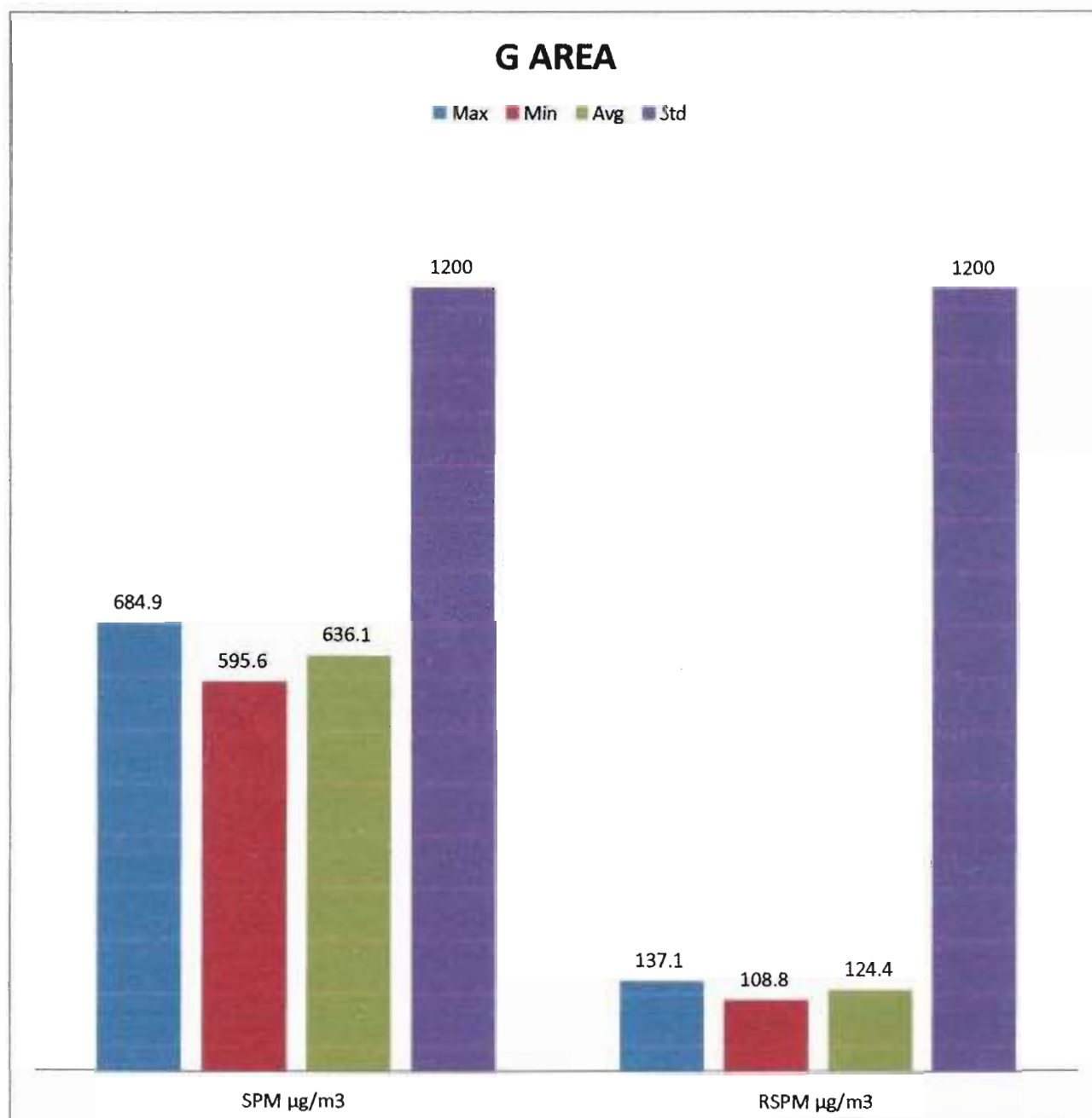

Technical Manager

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Quality Manager

3.2.4 G Area(F4)

The pollution level in G Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **684.9** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **595.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.8** $\mu\text{g}/\text{m}^3$ to **137.1** $\mu\text{g}/\text{m}^3$ during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/84

Test Report Issue date: 05.12.2024

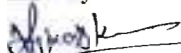
FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : G Area
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	G Area	627.1	117.2
2.	02-11-2024	G Area	668.9	130.2
3.	03-11-2024	G Area	684.9	136.5
4.	04-11-2024	G Area	628.0	120.6
5.	05-11-2024	G Area	634.7	115.7
6.	06-11-2024	G Area	612.3	123.9
7.	07-11-2024	G Area	650.0	133.7
8.	08-11-2024	G Area	627.5	126.5
9.	09-11-2024	G Area	597.9	108.8
10.	10-11-2024	G Area	620.9	120.9
11.	11-11-2024	G Area	631.4	120.1
12.	12-11-2024	G Area	608.8	120.7
13.	13-11-2024	G Area	669.8	130.1
14.	14-11-2024	G Area	649.2	135.0
15.	15-11-2024	G Area	639.1	123.4
16.	16-11-2024	G Area	597.7	115.4
17.	17-11-2024	G Area	647.9	117.7
18.	18-11-2024	G Area	639.3	124.8
19.	19-11-2024	G Area	641.4	132.4
20.	20-11-2024	G Area	600.6	112.9
21.	21-11-2024	G Area	643.8	129.0
22.	22-11-2024	G Area	609.1	121.7
23.	23-11-2024	G Area	668.7	125.7
24.	24-11-2024	G Area	658.7	124.4
25.	25-11-2024	G Area	667.3	128.4
26.	26-11-2024	G Area	595.6	116.1
27.	27-11-2024	G Area	608.6	124.4
28.	28-11-2024	G Area	675.7	137.1
29.	29-11-2024	G Area	599.7	124.6
30.	30-11-2024	G Area	676.9	134.1
Average			636.1	124.4

----End of Report----

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Technical Manager

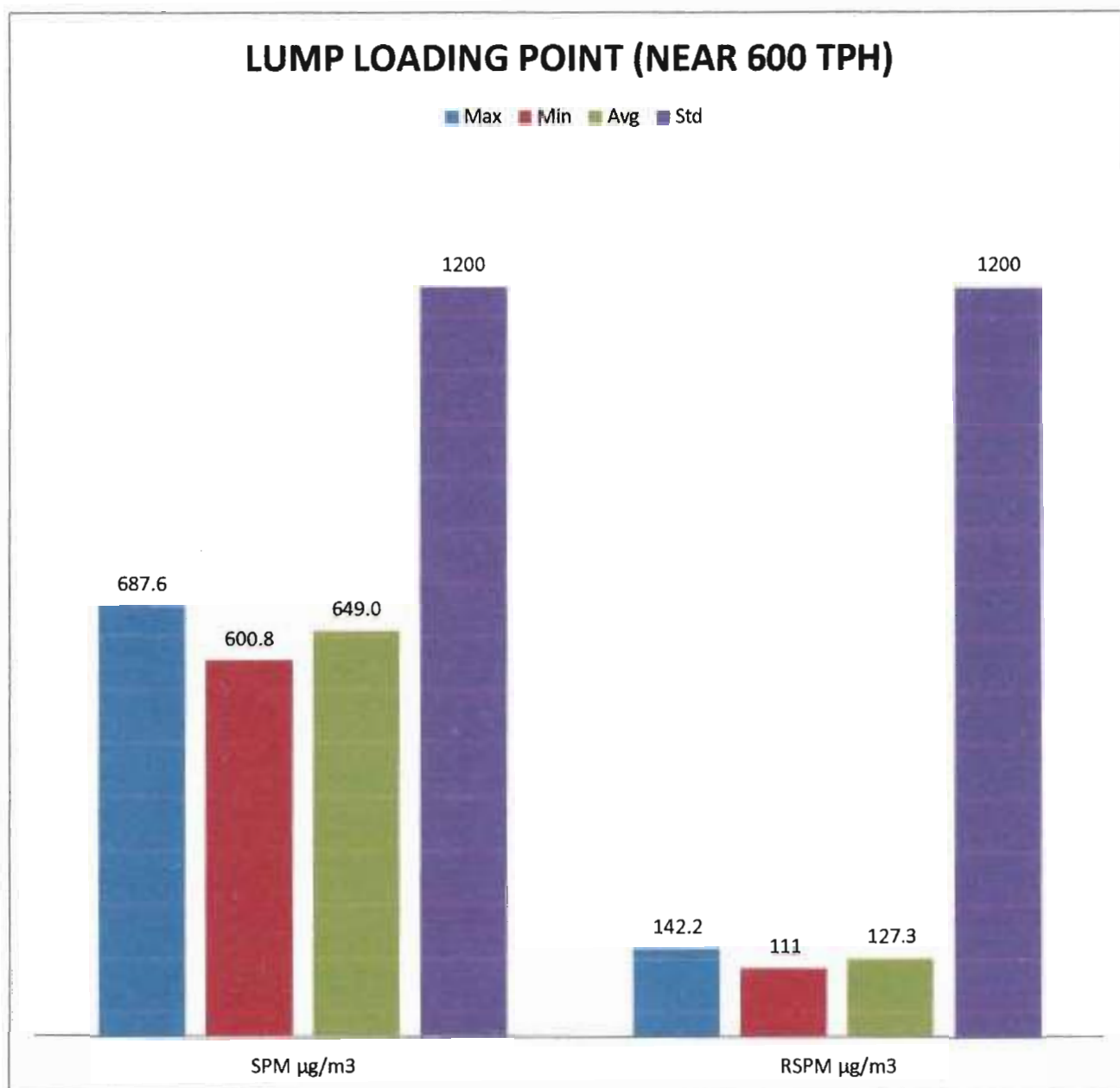
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3.2.5 Lump Loading Point (Near 600 TPH) (F5)

The pollution level in Lump Loading Point (Near 600 TPH) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **687.6** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **600.8** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **111** $\mu\text{g}/\text{m}^3$ to **142.2** $\mu\text{g}/\text{m}^3$ during the month.



Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/85

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Lump Loading Point (Near 600 TPH)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Lump Loading Point (Near 600 TPH)	686.7	139.2
2.	02-11-2024	Lump Loading Point (Near 600 TPH)	605.2	117.8
3.	03-11-2024	Lump Loading Point (Near 600 TPH)	675.5	135.6
4.	04-11-2024	Lump Loading Point (Near 600 TPH)	663.1	128.0
5.	05-11-2024	Lump Loading Point (Near 600 TPH)	609.7	112.3
6.	06-11-2024	Lump Loading Point (Near 600 TPH)	630.0	124.4
7.	07-11-2024	Lump Loading Point (Near 600 TPH)	617.5	124.0
8.	08-11-2024	Lump Loading Point (Near 600 TPH)	666.4	122.2
9.	09-11-2024	Lump Loading Point (Near 600 TPH)	625.8	117.9
10.	10-11-2024	Lump Loading Point (Near 600 TPH)	681.3	139.4
11.	11-11-2024	Lump Loading Point (Near 600 TPH)	610.1	111.0
12.	12-11-2024	Lump Loading Point (Near 600 TPH)	679.3	132.5
13.	13-11-2024	Lump Loading Point (Near 600 TPH)	634.6	121.8
14.	14-11-2024	Lump Loading Point (Near 600 TPH)	600.8	112.8
15.	15-11-2024	Lump Loading Point (Near 600 TPH)	669.7	136.8
16.	16-11-2024	Lump Loading Point (Near 600 TPH)	651.2	136.0
17.	17-11-2024	Lump Loading Point (Near 600 TPH)	620.8	116.6
18.	18-11-2024	Lump Loading Point (Near 600 TPH)	634.5	129.8
19.	19-11-2024	Lump Loading Point (Near 600 TPH)	676.6	127.1
20.	20-11-2024	Lump Loading Point (Near 600 TPH)	663.2	132.3
21.	21-11-2024	Lump Loading Point (Near 600 TPH)	650.3	122.7
22.	22-11-2024	Lump Loading Point (Near 600 TPH)	651.2	132.9
23.	23-11-2024	Lump Loading Point (Near 600 TPH)	653.0	133.8
24.	24-11-2024	Lump Loading Point (Near 600 TPH)	686.9	134.6
25.	25-11-2024	Lump Loading Point (Near 600 TPH)	646.9	134.9
26.	26-11-2024	Lump Loading Point (Near 600 TPH)	687.6	142.2
27.	27-11-2024	Lump Loading Point (Near 600 TPH)	646.4	123.7
28.	28-11-2024	Lump Loading Point (Near 600 TPH)	683.4	126.1
29.	29-11-2024	Lump Loading Point (Near 600 TPH)	658.4	122.7
30.	30-11-2024	Lump Loading Point (Near 600 TPH)	602.5	126.5
Average			649.0	127.2

----End of Report----

Verified By

Technical Manager

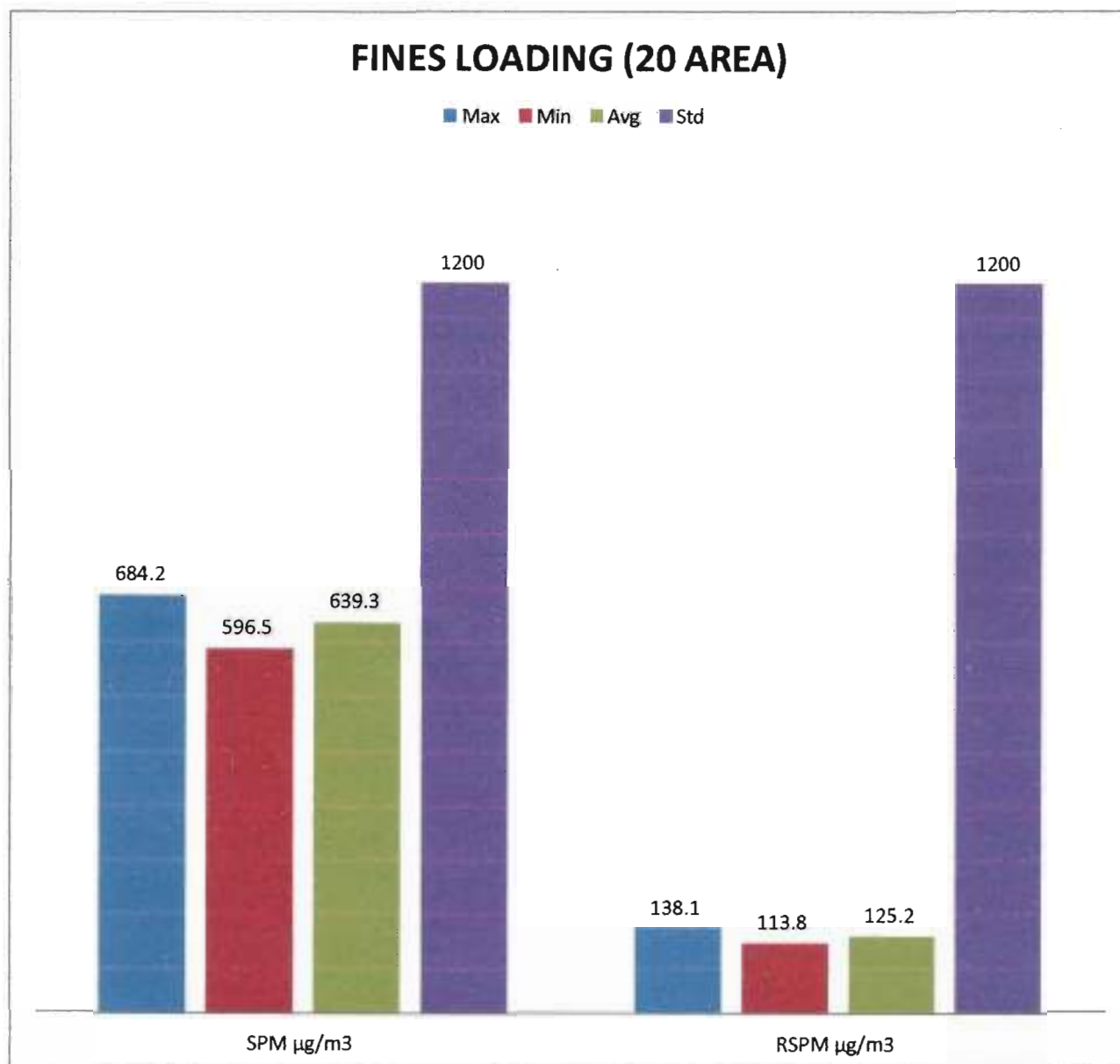
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Quality Manager



3.2.6 Fines Loading (20 area) (F6)

The pollution level in Fines Loading (20 area) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **684.2** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **596.5** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **113.8** $\mu\text{g}/\text{m}^3$ to **138.1** $\mu\text{g}/\text{m}^3$ during the month.





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Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/86

Test Report Issue date: 05.12.2024

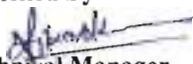
FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : Fines Loading (20 area)
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Fines Loading (20 area)	596.5	115.8
2.	02-11-2024	Fines Loading (20 area)	615.1	128.7
3.	03-11-2024	Fines Loading (20 area)	655.4	118.5
4.	04-11-2024	Fines Loading (20 area)	603.8	113.8
5.	05-11-2024	Fines Loading (20 area)	611.1	123.8
6.	06-11-2024	Fines Loading (20 area)	638.7	115.7
7.	07-11-2024	Fines Loading (20 area)	613.6	126.6
8.	08-11-2024	Fines Loading (20 area)	667.3	128.7
9.	09-11-2024	Fines Loading (20 area)	604.3	118.6
10.	10-11-2024	Fines Loading (20 area)	634.3	116.9
11.	11-11-2024	Fines Loading (20 area)	600.5	121.7
12.	12-11-2024	Fines Loading (20 area)	649.4	136.1
13.	13-11-2024	Fines Loading (20 area)	635.4	116.0
14.	14-11-2024	Fines Loading (20 area)	630.9	124.4
15.	15-11-2024	Fines Loading (20 area)	660.9	131.9
16.	16-11-2024	Fines Loading (20 area)	680.5	124.0
17.	17-11-2024	Fines Loading (20 area)	643.3	129.8
18.	18-11-2024	Fines Loading (20 area)	656.9	134.1
19.	19-11-2024	Fines Loading (20 area)	664.4	130.2
20.	20-11-2024	Fines Loading (20 area)	654.7	132.6
21.	21-11-2024	Fines Loading (20 area)	684.2	138.1
22.	22-11-2024	Fines Loading (20 area)	628.7	117.3
23.	23-11-2024	Fines Loading (20 area)	640.9	124.5
24.	24-11-2024	Fines Loading (20 area)	652.1	124.8
25.	25-11-2024	Fines Loading (20 area)	635.9	124.8
26.	26-11-2024	Fines Loading (20 area)	642.8	132.4
27.	27-11-2024	Fines Loading (20 area)	613.9	117.3
28.	28-11-2024	Fines Loading (20 area)	654.8	135.5
29.	29-11-2024	Fines Loading (20 area)	662.8	132.9
30.	30-11-2024	Fines Loading (20 area)	647.2	120.0
Average			639.3	125.2

----End of Report----

Verified By

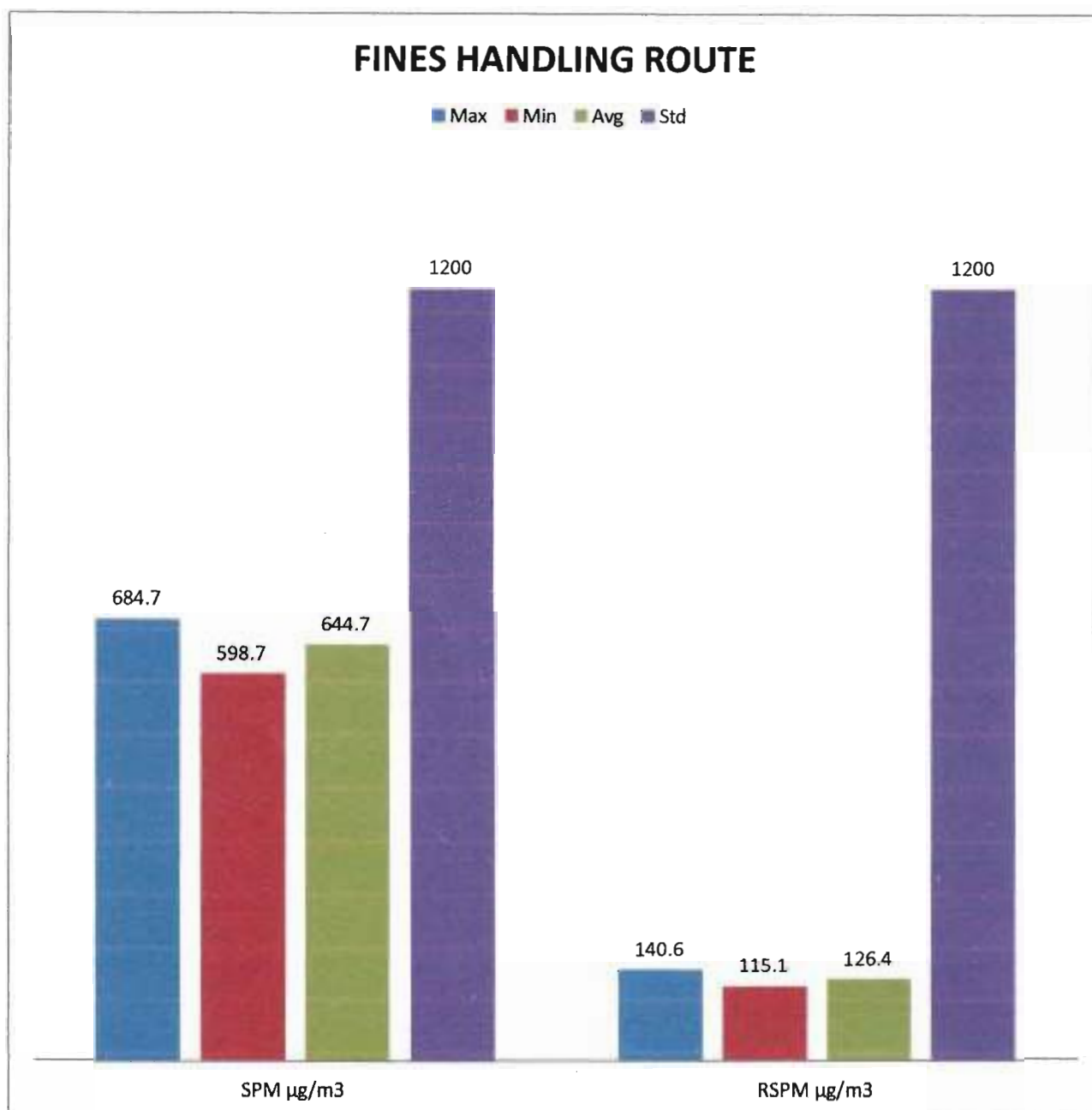

Technical Manager

Authorized By


Quality Manager


3.2.7 Fines Handling Route (F7)

The pollution level in Fines Handling Route for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **684.7** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **598.7** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **115.1** $\mu\text{g}/\text{m}^3$ to **140.6** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/87

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Handling Route**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Fines Handling Route	603.4	125.7
2.	02-11-2024	Fines Handling Route	684.7	130.1
3.	03-11-2024	Fines Handling Route	613.5	118.8
4.	04-11-2024	Fines Handling Route	614.8	126.3
5.	05-11-2024	Fines Handling Route	631.6	116.3
6.	06-11-2024	Fines Handling Route	630.6	115.1
7.	07-11-2024	Fines Handling Route	602.8	119.6
8.	08-11-2024	Fines Handling Route	657.9	121.5
9.	09-11-2024	Fines Handling Route	672.1	128.7
10.	10-11-2024	Fines Handling Route	603.9	115.6
11.	11-11-2024	Fines Handling Route	654.5	134.7
12.	12-11-2024	Fines Handling Route	681.4	126.6
13.	13-11-2024	Fines Handling Route	684.2	140.6
14.	14-11-2024	Fines Handling Route	605.2	116.3
15.	15-11-2024	Fines Handling Route	681.3	136.4
16.	16-11-2024	Fines Handling Route	660.6	128.4
17.	17-11-2024	Fines Handling Route	669.0	133.3
18.	18-11-2024	Fines Handling Route	673.4	122.6
19.	19-11-2024	Fines Handling Route	657.4	129.4
20.	20-11-2024	Fines Handling Route	675.6	134.6
21.	21-11-2024	Fines Handling Route	641.6	126.1
22.	22-11-2024	Fines Handling Route	632.0	129.9
23.	23-11-2024	Fines Handling Route	668.5	139.3
24.	24-11-2024	Fines Handling Route	632.5	123.8
25.	25-11-2024	Fines Handling Route	679.5	133.8
26.	26-11-2024	Fines Handling Route	598.7	121.5
27.	27-11-2024	Fines Handling Route	609.5	127.8
28.	28-11-2024	Fines Handling Route	683.4	123.6
29.	29-11-2024	Fines Handling Route	616.4	123.0
30.	30-11-2024	Fines Handling Route	621.3	122.2
Average			644.7	126.4

----End of Report----

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Technical Manager

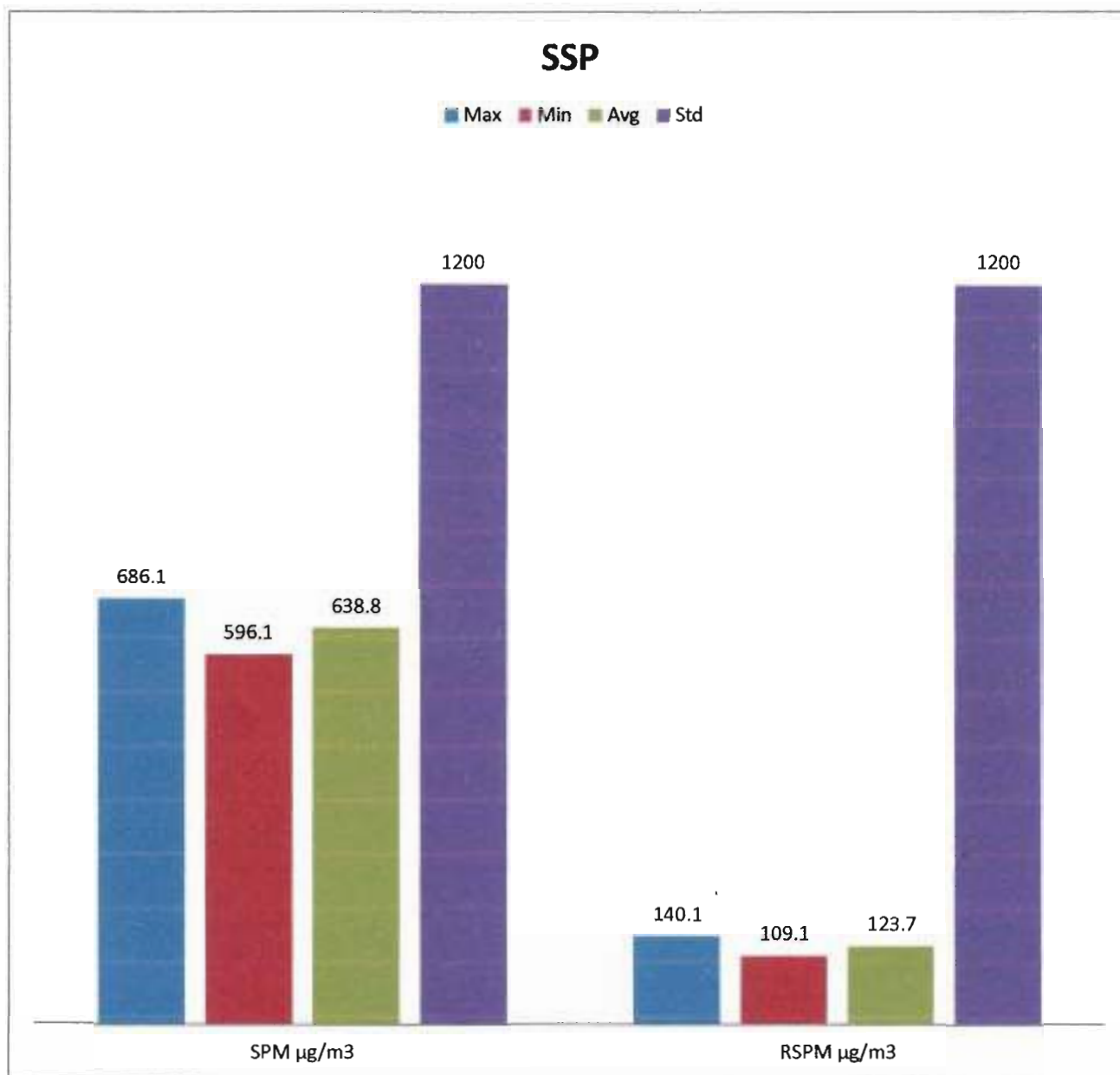
Authorized By

Quality Manager



3.2.8 SSP (F8)

The pollution level in SSP Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **686.1** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **596.1** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **109.1** $\mu\text{g}/\text{m}^3$ to **140.1** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/88

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : SSP
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	SSP	656.7	119.3
2.	02-11-2024	SSP	610.5	125.8
3.	03-11-2024	SSP	673.3	123.7
4.	04-11-2024	SSP	596.4	111.2
5.	05-11-2024	SSP	670.6	123.4
6.	06-11-2024	SSP	639.9	124.9
7.	07-11-2024	SSP	670.1	126.0
8.	08-11-2024	SSP	617.5	128.2
9.	09-11-2024	SSP	686.1	140.1
10.	10-11-2024	SSP	661.0	120.0
11.	11-11-2024	SSP	650.1	118.9
12.	12-11-2024	SSP	614.5	122.0
13.	13-11-2024	SSP	667.8	136.4
14.	14-11-2024	SSP	646.0	117.0
15.	15-11-2024	SSP	642.6	133.7
16.	16-11-2024	SSP	614.2	121.4
17.	17-11-2024	SSP	685.3	126.8
18.	18-11-2024	SSP	604.0	110.0
19.	19-11-2024	SSP	633.2	126.3
20.	20-11-2024	SSP	664.9	121.3
21.	21-11-2024	SSP	605.4	126.9
22.	22-11-2024	SSP	615.2	128.3
23.	23-11-2024	SSP	596.1	113.4
24.	24-11-2024	SSP	679.8	137.0
25.	25-11-2024	SSP	679.2	132.1
26.	26-11-2024	SSP	651.6	120.0
27.	27-11-2024	SSP	638.4	128.3
28.	28-11-2024	SSP	599.6	109.1
29.	29-11-2024	SSP	597.4	121.0
30.	30-11-2024	SSP	597.3	117.3
Average			638.8	123.7

----End of Report----

Verified By

Technical Manager

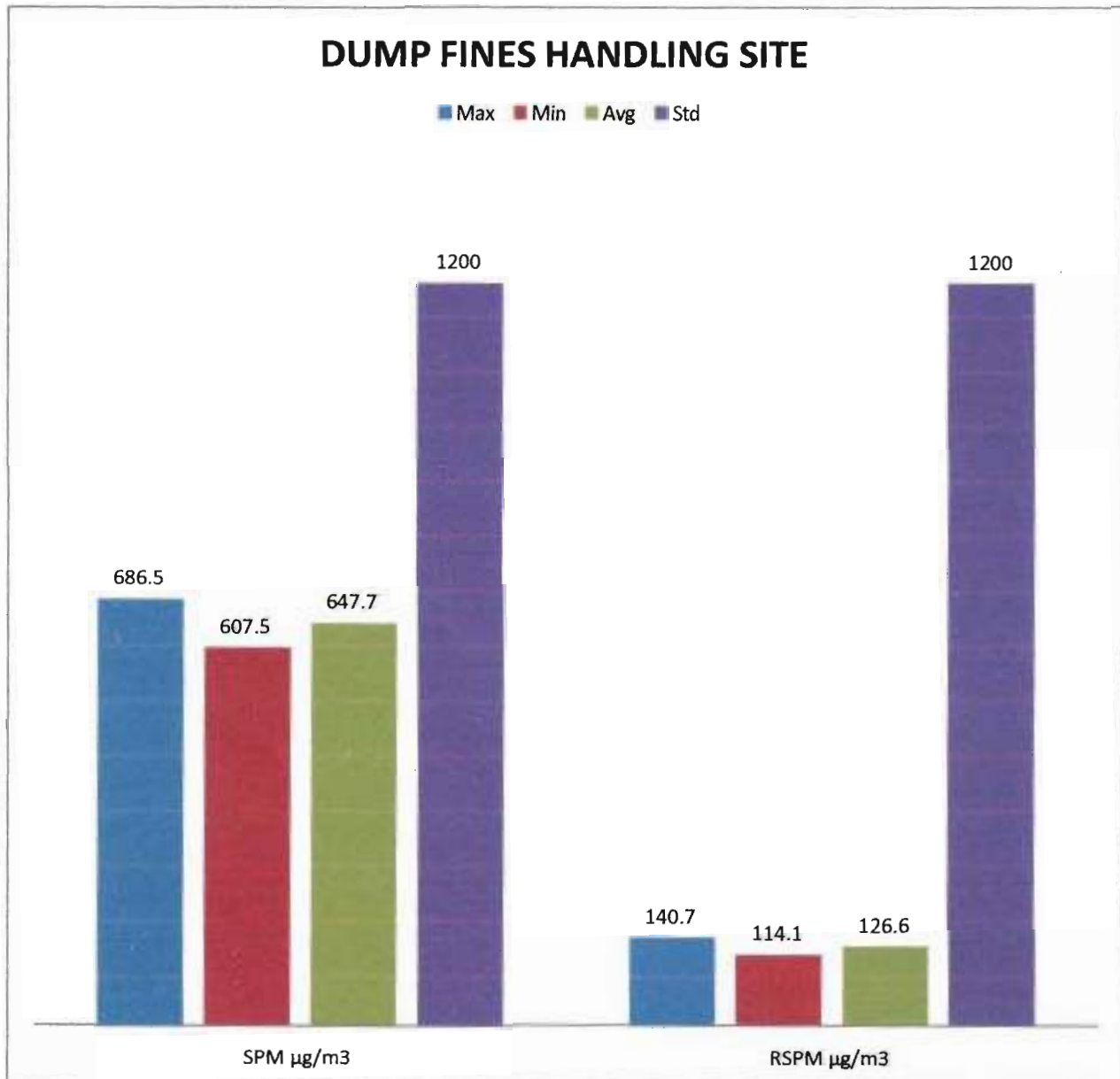
Authorized By

Quality Manager



3.2.9 Dump Fines Handling Site (F9)

The pollution level in Dump Fines Handling Site for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **686.5** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **607.5** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **114.1** $\mu\text{g}/\text{m}^3$ to **140.7** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/89

Test Report Issue date: 05.12.2024

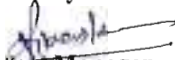
FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Dump Fines Handling Site**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Dump Fines Handling Site	660.7	135.3
2.	02-11-2024	Dump Fines Handling Site	675.4	137.5
3.	03-11-2024	Dump Fines Handling Site	621.5	125.5
4.	04-11-2024	Dump Fines Handling Site	639.7	116.6
5.	05-11-2024	Dump Fines Handling Site	629.6	116.8
6.	06-11-2024	Dump Fines Handling Site	685.6	140.7
7.	07-11-2024	Dump Fines Handling Site	650.4	118.1
8.	08-11-2024	Dump Fines Handling Site	681.6	135.0
9.	09-11-2024	Dump Fines Handling Site	619.5	120.1
10.	10-11-2024	Dump Fines Handling Site	635.0	128.4
11.	11-11-2024	Dump Fines Handling Site	608.5	114.1
12.	12-11-2024	Dump Fines Handling Site	626.6	129.1
13.	13-11-2024	Dump Fines Handling Site	686.5	137.0
14.	14-11-2024	Dump Fines Handling Site	607.5	123.1
15.	15-11-2024	Dump Fines Handling Site	647.3	124.0
16.	16-11-2024	Dump Fines Handling Site	677.2	126.4
17.	17-11-2024	Dump Fines Handling Site	684.5	127.8
18.	18-11-2024	Dump Fines Handling Site	638.2	125.7
19.	19-11-2024	Dump Fines Handling Site	650.2	126.3
20.	20-11-2024	Dump Fines Handling Site	615.0	117.8
21.	21-11-2024	Dump Fines Handling Site	667.5	128.4
22.	22-11-2024	Dump Fines Handling Site	634.1	132.9
23.	23-11-2024	Dump Fines Handling Site	653.8	134.4
24.	24-11-2024	Dump Fines Handling Site	619.3	127.4
25.	25-11-2024	Dump Fines Handling Site	665.7	123.8
26.	26-11-2024	Dump Fines Handling Site	630.4	115.6
27.	27-11-2024	Dump Fines Handling Site	677.5	126.1
28.	28-11-2024	Dump Fines Handling Site	678.2	139.0
29.	29-11-2024	Dump Fines Handling Site	629.6	116.7
30.	30-11-2024	Dump Fines Handling Site	634.7	127.3
Average			647.7	126.6

----End of Report----

Verified By


Technical Manager

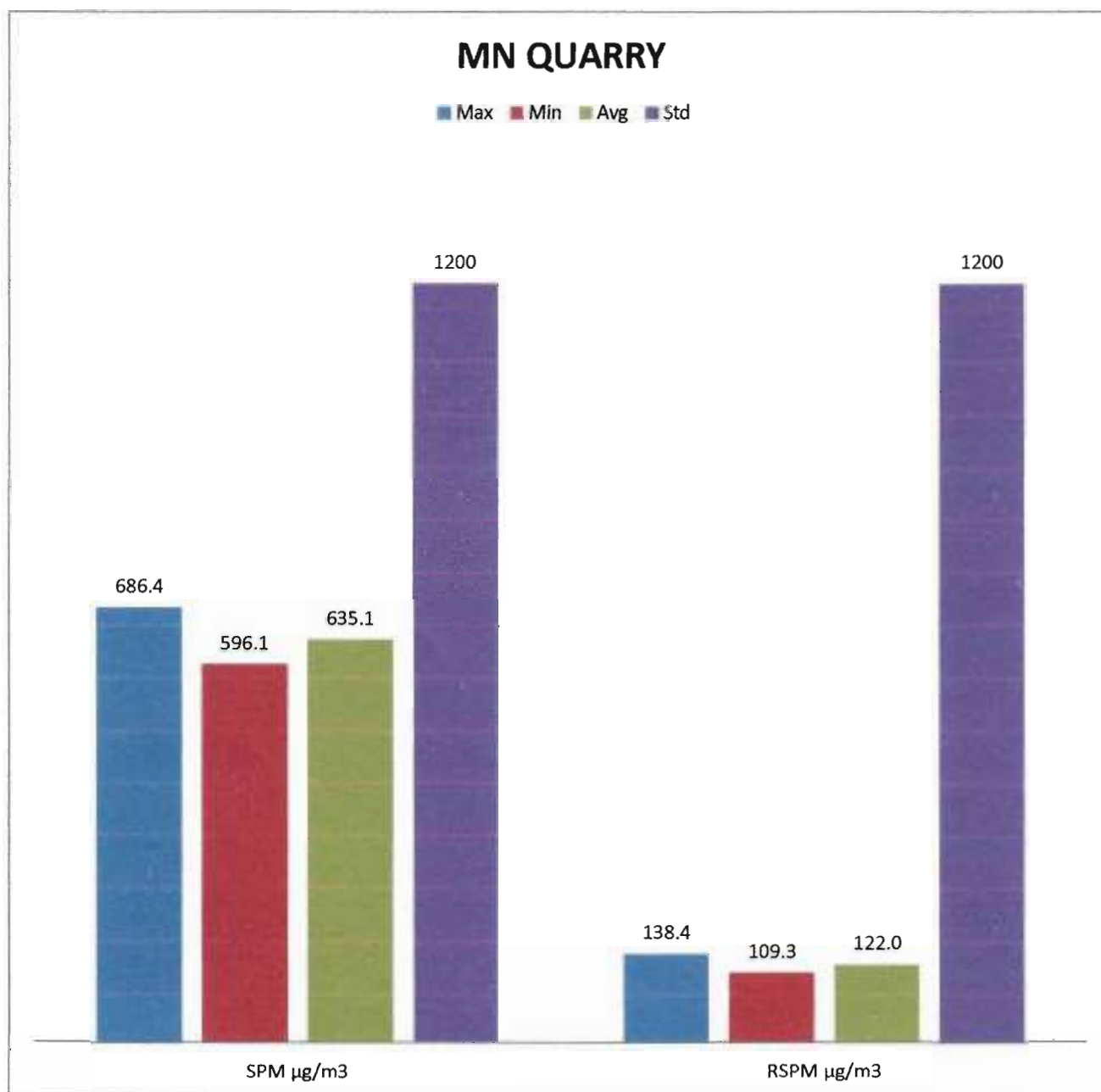
Authorized By


Quality Manager



3.2.10 Mn Quarry (F5)

The pollution level in Mn Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **686.4** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **596.1** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **109.3** $\mu\text{g}/\text{m}^3$ to **138.4** $\mu\text{g}/\text{m}^3$ during the month.



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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/90

Test Report Issue date: 05.12.2024

FUGITIVE EMISSION MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Mn Quarry**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-11-2024	Mn Quarry	608.0	115.2
2.	02-11-2024	Mn Quarry	605.3	117.0
3.	03-11-2024	Mn Quarry	635.8	121.1
4.	04-11-2024	Mn Quarry	612.1	112.5
5.	05-11-2024	Mn Quarry	686.4	126.1
6.	06-11-2024	Mn Quarry	673.9	124.0
7.	07-11-2024	Mn Quarry	640.3	115.8
8.	08-11-2024	Mn Quarry	672.1	132.2
9.	09-11-2024	Mn Quarry	596.1	116.0
10.	10-11-2024	Mn Quarry	619.6	118.4
11.	11-11-2024	Mn Quarry	633.7	122.1
12.	12-11-2024	Mn Quarry	601.4	116.6
13.	13-11-2024	Mn Quarry	631.1	114.8
14.	14-11-2024	Mn Quarry	631.0	114.4
15.	15-11-2024	Mn Quarry	614.7	113.6
16.	16-11-2024	Mn Quarry	613.9	114.8
17.	17-11-2024	Mn Quarry	630.0	124.9
18.	18-11-2024	Mn Quarry	643.4	117.9
19.	19-11-2024	Mn Quarry	620.5	122.9
20.	20-11-2024	Mn Quarry	671.3	133.8
21.	21-11-2024	Mn Quarry	674.0	138.4
22.	22-11-2024	Mn Quarry	681.0	134.3
23.	23-11-2024	Mn Quarry	668.7	135.0
24.	24-11-2024	Mn Quarry	660.3	120.9
25.	25-11-2024	Mn Quarry	612.9	124.1
26.	26-11-2024	Mn Quarry	627.3	
27.	27-11-2024	Mn Quarry	623.2	
28.	28-11-2024	Mn Quarry	600.7	110.2
29.	29-11-2024	Mn Quarry	657.7	137.9
30.	30-11-2024	Mn Quarry	605.5	109.3
Average			635.1	122.0

----End of Report----

Verified By

Technician Manager

Authorized By

Quality Manager



3.3 Surface/Effluent/Drinking Water Quality:

As per the guideline of CPCB, the following criteria shall be taken into consideration for use of the surface water bodies. Reports below shows the surface water quality analysis results at identified locations near the ML area.

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	- Total Coliforms Organism MPN/100ml shall be 50 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 6mg/l or more - Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor bathing (Organized)	B	- Total Coliforms Organism MPN/100ml shall be 500 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 5mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	- Total Coliforms Organism MPN/100ml shall be 5000 or less - pH between 6 to 9 - Dissolved Oxygen 4mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	- pH between 6.5 to 8.5 - Dissolved Oxygen 4mg/l or more - Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	- pH between 6.0 to 8.5 - Electrical Conductivity at 25C micro mhos/cm Max. 2250 - Sodium absorption Ratio Max. 26 - Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.3.1 Surface Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001297F
		Test Report No.	ECO/LAB/SW/0227/1297/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0227	Name of Location	Karo Near Lease Boundary at Linture Village
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1297/11/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	28.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	36.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.20	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	20.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.09	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	<5.0	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.05	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.06	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

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 2. Test report shall not be reproduced except in full without approval of the laboratory.
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----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-015		Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024	
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	25/11/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Karo Near Lease Boundryat Limtur Village)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	25/11/2024			
Period of Analysis	25/11/2025 To 02/12/2024			
Date of Reporting	02/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.34	APHA 4500H-B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.004	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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Haryana (India)
Tel No. 0172 - 5064827, - 5064830
Website : www.idmagroup.co.in
Email : commercial@idmalab.co.in

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001298F
		Test Report No.	ECO/LAB/SW/0227/1298/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0227	Name of Location	JhikariaNalla before Joining Karo River
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1298/11/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APIA, 23rd Ed. :2017,2540-D	5 -5000	32.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	40.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.4	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	22.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	9.20	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.05	3.0
10.	Copper as Cu	mg/l	APIA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.06	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

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----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager




Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-016			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	25/11/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Jhinkaria Nallah Before Joining Karo)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	25/11/2024			
Period of Analysis	25/11/2024 To 02/12/2024			
Date of Reporting	02/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.19	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.002	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001299F
		Test Report No.	ECO/LAB/SW/0227/1299/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0227	Name of Location	PanpashNallah
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1299/11/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	30.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	36.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	6.5	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	34.0	600
5.	Fluoride as F ⁻	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.16	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	7.10	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.05	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

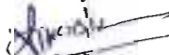
Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By


Technical Manager

Authorized By


Quantity in mg/l




Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-017			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	25/11/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Panposh Nallah)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	25/11/2024			
Period of Analysis	25/11/2024 To 02/12/2024			
Date of Reporting	02/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.36	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023

@ Represents details provided by the customer.

End of Report



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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001300F
		Test Report No.	ECO/LAB/SW/0227/1300/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0227	Name of Location	Karo River Intake
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1300/11/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	24.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	32.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	3.3	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	22.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.12	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	6.15	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

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-----End of Report-----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-018	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Work Order No.#	EMPLWO/DMA/10/2024	Dated 23/10/2024
Type of Sample#	Surface Water	
Customer's Description of Sample#	Surface Water	
Mode of Collection of Sample	By Hand	
Date of Sampling	25/11/2024	
Visual Observation	N/A	
Packing, Markings, Seal#	Plastic Bottle. (Loc. Karo River Intake)	
Quantity#	1 Ltr.	
Date of Receipt of Sample	25/11/2024	
Period of Analysis	25/11/2024 To 02/12/2024	
Date of Reporting	02/12/2024	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.28	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.0006	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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2.3.2 Effluent Waste Water Quality:

TEST REPORT

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400001303F
		Test Report No.	ECO/LAB/WW/0227/1303/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Waste Water		
Sample Registration No.	0227	Name of Location	Oil Catch Pit Water Bottom Garbage
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 PM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1303/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E)
						Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.94	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	42.0	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	24.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.20	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F ⁻	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.18	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	6.20	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.19	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

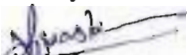
Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager




Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-019	Page No.	1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha		
Work Order No#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024
Type of Sample#	Waste Water		
Customer's Description of Sample#	Waste Water		
Mode of Collection of Sample	By Hand		
Date of Sampling	25/11/2024		
Visual Observation	N/A		
Packing, Markings, Seal#	Plastic Bottle. (Loc. Oil Catchpit Water Bottom Garage)		
Quantity#	1 Ltr.		
Date of Receipt of Sample	25/11/2024		
Period of Analysis	25/11/2024 To 02/12/2024		
Date of Reporting	02/12/2024		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	<0.1	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.05	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.013	CPCB Guide Manual:Water & waste water Analysis

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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- In case of any feedback/complaints, please send email at testing@idmagroup.co.in or call at 0172 - 5064827 / 5064830



ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

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Phone No. : 0522 - 4079201/2748282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1939PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400001304F
		Test Report No.	ECO/LAB/WW/0227/1304/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Waste Water		
Sample Registration No.	0227	Name of Location	Oil Catch pit water G-Area
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 PM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1304/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E)
						Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.57	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	24.0	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	36.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.8	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F ⁻	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.25	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	5.80	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.20	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-020			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024	
Type of Sample#	Waste Water			
Customer's Description of Sample#	Waste Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	25/11/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water G-Area)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	25/11/2024			
Period of Analysis	25/11/2024 To 02/12/2024			
Date of Reporting	02/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	<0.1	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.05	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.023	CPCB Guide Manual/Water & waste water Analysis

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

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Tel No. 0172 - 5064827, - 5064830

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.3.3 Drinking Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001301F
		Test Report No.	ECO/LAB/DW/0227/1301/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Drinking Water		
Sample Registration No.	0227	Name of Location	Mount Club Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1301/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	5.86	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.08	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.03	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	0.06	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note-

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-013	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Type of Sample#	Drinking Water	
Customer's Description of Sample#	Drinking Water	
Quantity#	1 Ltr.	
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc.Mount Club Tap Water)	
Mode of Collection of Sample	By Hand	
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated 23/10/2024
Date of Receipt of Sample	23/11/2024	
Period of Analysis	25/11/2024 To 02/12/2024	
Visual Observation	N/A	
Date of Reporting	02/12/2024	
Testing Protocol	IS: 10500:2012	

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Residual Chlorine	mg/L	<0.1	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	0.002	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Opinion :

* Represents details provided by the customer. -

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

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Tel No. 0172 - 5064827, - 5064830

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001302F
		Test Report No.	ECO/LAB/DW/0227/1302/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Drinking Water		
Sample Registration No.	0227	Name of Location	Karo Guest House Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1302/11/2024

SL No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.82	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.05	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.06	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-014	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Dist. Keonjhar, Odisha-758037 Odisha	
Type of Sample#	Drinking Water	
Customer's Description of Sample#	Drinking Water	
Quantity#	1 Ltr.	
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc.Karo Guest House Tap Water)	
Mode of Collection of Sample	By Hand	
Work Order No.#	EMPLWO/IDMA/10/2024	Dated 23/10/2024
Date of Receipt of Sample	25/11/2024	
Period of Analysis	25/11/2024 To 02/12/2024	
Visual Observation	N/A	
Date of Reporting	02/12/2024	
Testing Protocol	IS: 10500:2012	

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Residual Chlorine	mg/L	<0.1	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	0.001	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Opinion :

* Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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391, Industrial Area, Phase - 1,

Panchkula - 134113,

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Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

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(Formerly known as Ecomen Laboratories Private Limited)

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.4 Ground Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001306F
		Test Report No.	ECO/LAB/GW/0227/1306/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Ground Water		
Sample Registration No.	0227	Name of Location	Bolani Gouda Basti Dug well
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1306/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.52	6.5-8.5	No Relax
2	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.07	1	1.5
4	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fc-B	0.02-50	0.04	0.3	No Relax
8	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By


Technical Manager

Authorized By


Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-022	Page No.	1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha		
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024
Type of Sample#	Ground Water		
Customer's Description of Sample#	Ground Water		
Mode of Collection of Sample	By Hand		
Date of Sampling	25/11/2024		
Visual Observation	N/A		
Packing, Markings, Seal#	Plastic Bottle. (Loc.Gouda Basti-Well Water)		
Quantity#	1 Ltr.		
Date of Receipt of Sample	25/11/2024		
Period of Analysis	25/11/2024 To 02/12/2024		
Date of Reporting	02/12/2024		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
3	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
4	Chromium (Hexavalent)	mg/L	<0.05	USEPA Method 7196A
5	Cadmium	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023
6	Copper as Cu	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023
7	Iron	mg/L	0.002	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001305F
		Test Report No.	ECO/LAB/GW/0227/1305/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Ground Water		
Sample Registration No.	0227	Name of Location	Balaagoda Village Dug well Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1305/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.20	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.04	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	0.08	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ -F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

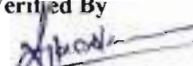
Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note-

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By


Technical Manager

Authorized By


Quality Manager





Idma Laboratories Limited

TEST REPORT

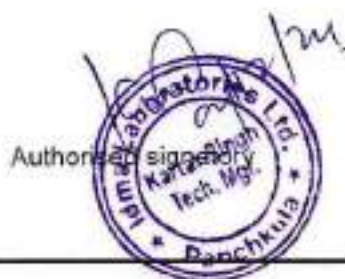
Lab No.	251124N-E-023			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Minas, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024	
Type of Sample#	Ground Water			
Customer's Description of Sample#	Ground Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	25/11/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Balagoda Village -Well Water)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	25/11/2024			
Period of Analysis	25/11/2024 To 02/12/2024			
Date of Reporting	02/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing : (Water)	-	-	-
1	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
3	Total Residual Chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
4	Chromium (Hexavalent)	mg/L	<0.05	USEPA Method 7196A
5	Cadmium	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023
6	Copper as Cu	mg/L	0.0009	APHA 3120 B 24th Edition, 2023
7	Iron as Fe	mg/L	0.003	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001307F
		Test Report No.	ECO/LAB/GW/0227/1307/11/2024
		Issue Date of Test Report	02.12.2024
Type of Sample	Ground Water		
Sample Registration No.	0227	Name of Location	Bolani Basti Dug well
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	22.11.2024	Time of Sample Collection	-
Date of Sample Receipt	25.11.2024	Time of Sample Receipt	10:30 AM
Start Date of Analysis	25.11.2024	End Date of Analysis	02.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 56%	Sample ID Code	ECO/LAB/1307/11/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.75	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.09	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.07	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ -F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APIIA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

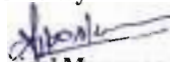
Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

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----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	251124N-E-021	Page No. 1/2
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Work Order No.#	EMPLWO/IDMA/10/2024	Dated 23/10/2024
Type of Sample#	Ground Water	
Customer's Description of Sample#	Ground Water	
Mode of Collection of Sample	By Hand	
Date of Sampling	25/11/2024	
Visual Observation	N/A	
Packing, Markings, Seal#	Plastic Bottle. (Loc. Bolani Village -Well Water)	
Quantity#	1 Ltr.	
Date of Receipt of Sample	25/11/2024	
Period of Analysis	25/11/2024 To 02/12/2024	
Date of Reporting	02/12/2024	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
3	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
4	Chromium (Hexavalent)	mg/L	<0.05	USEPA Method 7196A
5	Cadmium	mg/L	<0.0005	APHA 3120 B 24th Edition, 2023
6	Copper as Cu	mg/L	0.002	APHA 3120 B 24th Edition, 2023
7	Iron	mg/L	0.005	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



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2.5.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, and wind speed and wind direction are given in **Table No. 2.5.2**. During the month of 'November 2024' the temperature varied from 12.2°C to 34.7°C & Relative Humidity varied from 1.1% to 98.8%. The maximum wind speed recorded during the month was 34 m/s and the overall average wind speed is calculated to be 2.5m/s, 23.06% of the time the wind remained calm (<0.5 m/s). The predominant wind direction as observed to be from South West (SW) direction during the month. The total rainfall observed during the month was 23.6 & 1 out of 30 were rainy days. Max. And Min. Value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for November 2024 are given below.

Table No. 2.5.2: Results of Site Specific Meteorological Data

Parameters		November, 2024
Temperature (°C)	Maximum	34.7
	Minimum	12.2
	Average	23.4
Relative Humidity (%)	Maximum	98.8
	Minimum	1.1
	Average	79.6
Wind Speed(m/s)	Maximum	34
	Average	2.5
Wind Direction (%)	N	10.82
	NNE	1.82
	NE	3.75
	ENE	5.14
	E	4.87
	ESE	3.48
	SE	3.06
	SSE	3.33
	S	5
	SSW	9.58
	SW	26.54
	WSW	7.64
	W	5.42
	WNW	4.31
	NW	4.02
	NNW	1.12
	CALM	23.06
Rainfall(mm)	Monthly Total	23.6
	No. of rainy days	01



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AWS/09

Test Report Issue date: 05.12.2024

METEROLOGICAL MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist- Keonjhar , Odisha**
2. Monitoring Instruments : **Automatic Weather Station (AWS)**
3. Sampling Location : **DAV Public School**

Date	Temperature (°C)		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.11.2024	34.3	19.4	98.7	37.6	6.25	0	0
02.11.2024	34.7	19.3	97.8	37.4	6.00	0	0
03.11.2024	32.5	19.3	98.6	45.3	7.00	0	0
04.11.2024	33	19.3	98.6	40.6	7.25	0	0
05.11.2024	32.7	19.3	98.6	44.8	4.00	0	0
06.11.2024	33.1	18.9	98.6	44.8	34	0	0
07.11.2024	32.3	19.4	98.6	44.4	4.00	0	0
08.11.2024	32.3	20	98.6	47.1	5.75	0	0
09.11.2024	32	14.2	98.6	1.1	6.00	0	0
10.11.2024	31.8	18.6	98.5	44.7	6.75	0	0
11.11.2024	32.8	17.3	98.5	43.2	7.75	0	0
12.11.2024	34.3	19.4	90.4	69.6	8.50	0	0
13.11.2024	34.7	19.3	88.1	74.4	6.00	0	0
14.11.2024	32.5	19.3	98.1	83	7.50	0	0
15.11.2024	33	19.3	98.1	71.5	10.00	0	0
16.11.2024	32.7	19.3	93.8	46.7	4.75	0	0
17.11.2024	33.1	18.9	98.1	52.4	3.50	0	0
18.11.2024	32.3	19.4	98	44.9	7.25	0	0
19.11.2024	32.3	20	98.8	48.1	5.25	0	0
20.11.2024	32	14.2	98.7	51.7	5.25	0	0
21.11.2024	31.8	18.6	98.7	57.2	8.00	0	0
22.11.2024	32.2	17.2	98.7	55.6	6.75	0	0
23.11.2024	32.4	15.4	98.7	47	7.75	0	0
24.11.2024	28.2	13.8	98.3	45.4	8.00	0	0
25.11.2024	28.3	12.7	98.3	42.1	6.50	0	0
26.11.2024	28.5	12.5	98.3	36	7.50	0	0
27.11.2024	28.2	12.2	98.3	41.2	6.50	0	0
28.11.2024	28.2	12.6	98.3	42.1	8.75	0	0
29.11.2024	29.3	15.3	98.3	45	7.25	0	0
30.11.2024	21.5	17.3	98.5	78.6	5.75	0	23.6

----End of Report----

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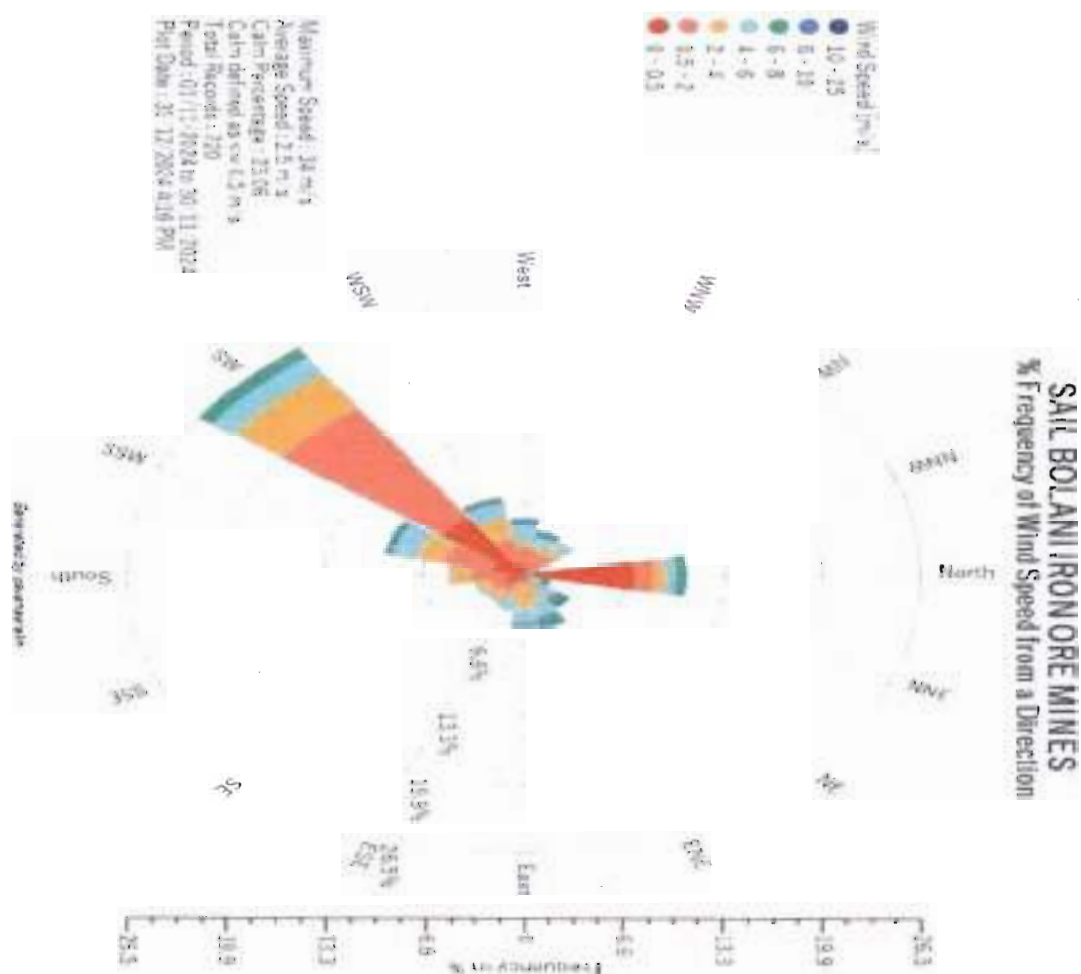
Technical Manager

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Quality Manager



Figure No.2: Wind Rose (24 hrly) During the Month of November' 2024





ECOMEN MINING PRIVATE LIMITED
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Second Floor Hall, House No. B-1/8, Sector-H, Aliganj, Lucknow - 226 024
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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.6 Ground Water Level:

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/GWL/04

Test Report Issue date: 05.12.2024

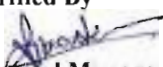
GROUND WATER LEVEL MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ore Mine ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **Piezometer**
3. Sampling Location : **Balagoda village, Bolani Gauda Basti, Bolani Basti**
4. Sample collected by : **ELPL representative in presence of Client's representative.**

Sl. No.	Name of Location	Unit	Ground Water Level (in Meter)
1.	Balagoda Village	Meter	1.15
2.	Bolani Gauda Basti	Meter	2.58
3.	Bolani Basti	Meter	1.05
4.	Dhanurjarpur	Meter	5.30
5.	Dhanurjarpur(thakurani pitha)	Meter	6.45
6.	Dhanurjarpur(gagarai sahi)	Meter	5.28

---End of Report---

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2.7 Surface Flow Rate (Nallah/Stream):

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/SWF/09

Test Report Issue date: 05.12.2024

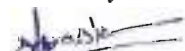
SURFACE FLOW RATE MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : Flow Meter
3. Sampling Location : Karo River Limtur Villg, Jhikaria Nallah , Panposh Nallah
4. Sample collected by : EMPL representative in presence of Client's representative.

Location Name	Station Code	Result in (m/sec)
Karo River Limtur Village	SWFM1	0.54
Jhikaria nallah	SWFM2	0.30
Panposh Nallah	SWFM3	0.36

----End of Report----

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Technical Manager

Authorized By


Quality Manager




SAIL BOLANI
ORE MINES

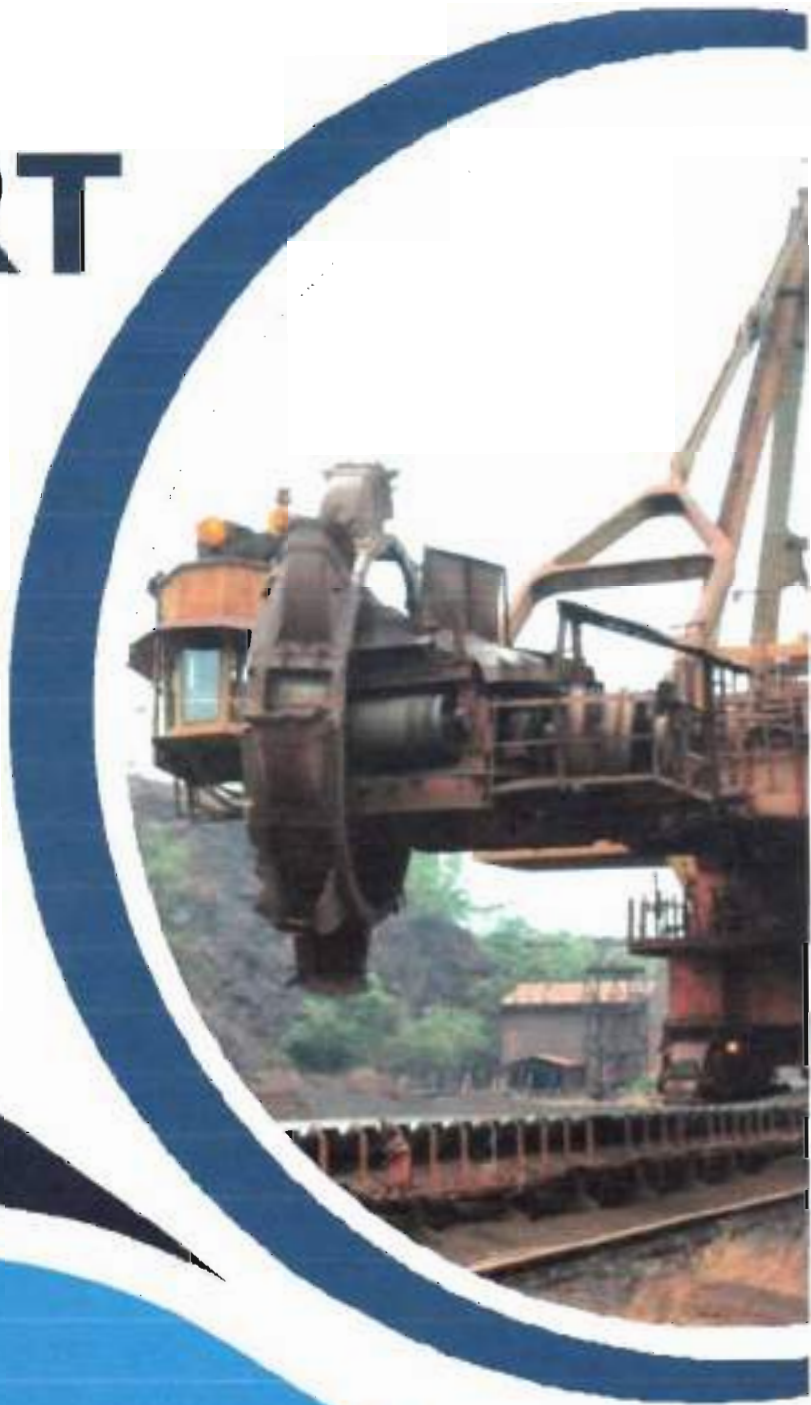
ENVIRONMENTAL
MONITORING

REPORT

DECEMBER 2024

Presented By

**Ecomen Mining
Pvt.Ltd**



1.0 PREAMBLE

Steel Authority of India Limited (*hereinafter termed as SAIL*), is a central public sector undertaking under the ownership of Ministry of Steel, Govt. of India has engaged M/s Ecomen Mining Pvt. Ltd., Lucknow, U.P. for carrying out various **Environmental Monitoring and Analysis Work** in its Bolani Ores Mines –RSP located in the district of Keonjhar.

M/s Ecomen Mining Pvt. Ltd. has obtained MoEF & CC Recognition, NABL Accreditation and SPCB, Odisha empanelment for its laboratory division and also a NABET Accredited consultant to carry out EIA/EMP Report for various sectors like Mining, Mineral Beneficiation, Coal Washery, Thermal Power Plant, Metallurgical Industry and Infrastructure & Building Projects etc.

Work Order issued by Bolani Ores Mines-RSP-SAIL vide No-CC/REV/284/2023-24 dated.11.01.2024 for Environmental Monitoring & Analysis Work includes monitoring & analysis of Air Environment, Water Environment, Land Environment such as Ambient Air Quality, Work Zone Air Quality, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. This report presents the Environmental monitoring data collected from the core and buffer zone of Bolani Ores Mines in respect of following Environmental attributes during '**December-2024**' in the given frequency. Further, in compliance of condition no 6 (vi) of the EC Grant order vide J/11015/418/2008-IA.II(M) dated. 21.12.2012 and condition no 7 A(iii) of EC Grant order vide J/11015/396/2008-IA.II(M) dated. 21.12.2012 the analysis of air quality monitoring data is done in this report with the objective to see the effectiveness of the mitigative measures already implemented.

Scope of the Work

The scope of work as per the work order for FY-2024-25 is as follows:

Table No. 1.1: Scope of Work

Sl. No.	Particulates	Frequency of monitoring	No. of Stations
1.	Sampling & Analyses for Ambient Air Quality(AAQ) for 5 Parameters i.e. PM 10, PM 2.5, SO ₂ ,NO _x & CO	Daily	04
2.	Sampling & Analyses for Ambient Air Quality (AAQ) for 2 Parameters i.e. PM 10, PM 2.5	Daily	02
3.	Sampling & Analyses of Fugitive dust/Emission (SPM & RSPM)	Daily	10
4.	Sampling & Analyses of Surface/ effluent/ drinking water Quality for 21 parameter	Monthly	08
5.	Sampling and Analyses of ground water quality for 21 parameters	Quarterly	03
6.	Sampling and Analyses of Soil Samples for specified 9 parameters	Yearly	06
7.	Monitoring of weather/meteorological Parameters and continuous generation of data daily round the year by	Daily	01

	establishing online station round the clock throughout the Year		
8.	Smoke Density Monitoring of Vehicular Exhaust	Annually	09
9.	Ground water level Monitoring	Quarterly	03
10.	Nallah/River Flow rate Monitoring	Monthly	03

2.0 DETAILS OF MONITORING/SAMPLING STATIONS:

To carry out the Environmental Data Generation program, ECOMEN in due consultation with SAIL has identified different locations to collect the samples for Air & Water Environment in and around the mining lease area. The details of stations identified are as follows. The details of locations identified for monitoring different environmental parameters are given in the subsequent sections.

2.1 Ambient Air Quality (A)

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. Out of six (06) locations, monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) as (NO₂) and Carbon Monoxide (CO) at (4) Location and monitoring of Particulate Matter (PM₁₀) and Particulate Matter (PM_{2.5}) was carried out at the rest two (2) Locations as per the guidelines stipulated by Central Pollution Control Board. The locations are as given below.

Table No. 2.1: Details of AAQ Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
Ambient Air Quality (AAQ) for 5 Parameters i.e. PM ₁₀ , PM _{2.5} , SO ₂ ,NO _x & CO						
1	Bolani Village Community Center	6.90	Daily	A1	22°5'34.13"N	85°19'33.43"E
2	DAV Public School	6.90		A2	22°7'7.37"N	85°20'16.61"E
3	Main Gate	5.10		A3	22°6'18.18"N	85°19'47.27"E
4	Bolani Mines Office complex	5.10		A4	22°6'23.84"N	85°19'45.40"E
Ambient Air Quality (AAQ) for 2 Parameters i.e. PM ₁₀ , PM _{2.5}						
5	Limtur Village	6.90		A5	22°7'35.14"N	85°21'10.46"E
6	Karo Guest House	6.90		A6	22°05'36.38"N	85°20'32.38"E

2.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring (F)

To assess the level of fugitive dust due to mining and allied activities, ten (10) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out on Daily Basis. The locations are as given below.

Table No. 2.2: Details of Fugitive Emission Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
1	Panposh	5.10	Daily	F1	22°6'41.46"N	85°19'41.60"E
2	D Area	5.10		F2	22°07'19.78"N	85°20'5.70"E
3	F Area	5.10		F3	22°05'45.19"N	85°18'21.95"E
4	G Area	5.10		F4	22°06'3.88"N	85°18'8.22"E
5	Lump Loading Point (near 600TPH)	6.90		F5	22°06'18.79"N	85°19'54.78"E
6	Fines Loading Plant	6.90		F6	22°05'51.12"N	85°19'45.79"E
7	Dump Fines handling route	6.90		F7	22°5'39.31"N	85°19'26.29"E
8	SSP	5.10		F8	22°06'13.80"N	85°19'12.52"E
9	Dump Fines Handling Site	5.10		F9	22°06'09.94"N	85°19'30.61"E
10	Mn Quarry	6.90		F10	22°07'23.56"N	85°21'8.86"E

2.3 Surface/Effluent/Drinking Water Quality:

In order to assess the quality of surface/effluent/drinking water, Eight (8) locations were identified in and around the ML area. Out of eight (8) locations, surface water was taken from four (4) locations, drinking water was taken from two (2) locations and effluent water was taken from two (2) locations. One grab sample was collected from each location in the month and was analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.3: Details of Surface/Effluent/Drinking Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Surface Water Quality				
Panposh Nallah	Monthly Once	SWQ-1	22°6'31.68"N	85°19'34.41"E
Karo Near Lease Boundary		SWQ-2	22°7'26.27" N	85°21'52.95"E
Karo River Intake		SWQ-3	22°5.13.02' N	85°19'57.88"E

Jhikaria nallah before joining Karo		SWQ-4	22°5'22.50" N	85°19'10.05"E
Drinking Water Quality				
Mount Club Tap Water	Monthly Once	DW-1	22°6'56.24" N	85°19'58.21"E
Karo Guest House Tap Water		DW-2	22°5'36.68" N	85°20'32.09"E
Effluent Waste Water				
Oil Catch Pit Water Bottom Garage	Monthly Once	EW-1	22°6'27.11" N	85°19'37.62"E
Oil Catch pit water G-Area		EW-2	22°6'1.83"N	85°18'24.16"E

2.4 Ground Water Quality (GWQ)

In order to assess the quality of ground water, three (3) locations were identified in and around the mining lease area. One grab sample is collected from each location quarterly and analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.4: Details of Ground Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Ground Water Quality				
Bolani Village-Well water	Quarterly	GWQ-1	22° 05' 27.20"N	85° 19' 27.13"E
Bolani Gouda Basti-Well water		GWQ-2	22° 05' 40.97"N	85° 20' 2.45"E
Balagoda Village-Well water		GWQ-3	22° 05' 57.02"N	85° 20' 27.41"E

2.5 Weather/Meteorology

An Automatic Weather Monitoring Station (AWS) is installed at DAV Public School (22°7'7.85"N; 85°20'16.83"E) to collect the meteorological data on daily basis continuously. The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

Table No. 2.5: Details of Meteorological Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
DAV Public School	Daily Basis	M	22°7'7.85"N	85°20'16.83"E

Figure No.1: Location of Monitoring Station with ML Boundary



3.0 RESULTS AND DISCUSSION

3.1 Ambient Air Quality Monitoring

The Summarized results of AAQ for the month of December-2024 are given in the Table below

Table No. 3.1 (a): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	PM ₁₀			PM _{2.5}		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community center	A1	65.7	54.1	59.4	20.8	13.4	16.9
2.	Dav Public School	A2	68.9	58.1	63.0	24.9	18.0	21.6
3.	Main Gate	A3	77.8	68.0	73.2	29.9	22.7	26.3
4.	Bolani Mines Office Complex	A4	73.8	62.4	67.7	28.0	20.1	23.6
5.	Limtur Village	A5	54.0	43.1	48.2	25.9	18.1	22.3
6.	Karo Guest House	A6	53.1	42.5	47.8	26.0	18.1	21.7
CPCB Std.			100 µg/m ³			60 µg/m ³		

Table No. 3.1 (b): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	SO ₂			NO _x		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	23.9	15.9	19.2	20.8	14.1	17.7
2.	Dav Public School	A2	21.7	13.1	17.9	18.8	12.1	15.7
3.	Main Gate	A3	24.9	16.6	20.6	24.9	18.1	21.9
4.	Bolani Mines Office Complex	A4	21.9	14.1	17.7	19.6	13.0	16.3
CPCB Std.			80 µg/m ³			80 µg/m ³		

BDL of SO₂ ≤ 4 µg/m³, BDL of NO_x ≤ 9 µg/m³ (NO_x as NO₂)

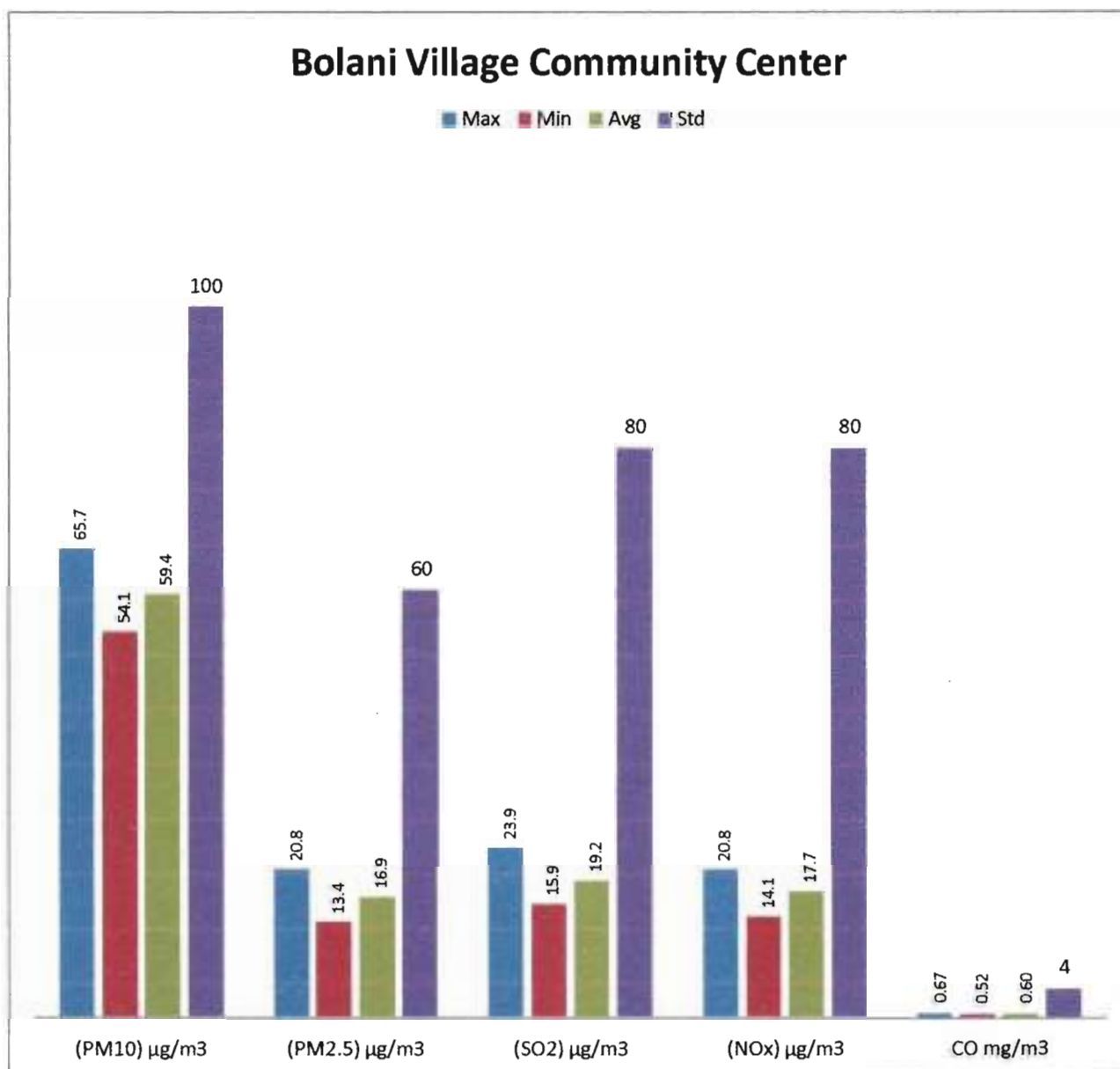
Table No. 3.1 (c): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	CO		
			Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	0.67	0.52	0.60
2.	Dav Public School	A2	0.63	0.49	0.57
3.	Main Gate	A3	0.74	0.60	0.66
4.	Bolani Mines Office Complex	A4	0.60	0.49	0.54
CPCB Std.			4 mg/m ³		

Note: BDL value for CO-0.11 mg/m³

3.1.1 Bolani village Community Center (A1):

The pollution level in Bolani village Community Center for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **65.7** µg/m³ whereas minimum concentration was observed **54.1** µg/m³ during the month. PM_{2.5} concentration ranges between **13.4** µg/m³ to **20.8** µg/m³, SO₂ concentration ranges between **15.9** µg/m³ to **23.9** µg/m³, NO_x as (NO₂) concentration ranges between **14.1** µg/m³ to **20.8** µg/m³ and CO concentration ranges between **0.52** mg/m³ to **0.67** mg/m³ was observed during the month



Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/67

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines , At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-1: Bolani village Community Center
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.12.2024	57.0	16.4	17.8	16.8	0.57
2.	02.12.2024	54.1	19.2	16.5	14.7	0.53
3.	03.12.2024	63.8	19.8	16.7	18.4	0.52
4.	04.12.2024	61.7	15.1	18.0	20.8	0.65
5.	05.12.2024	64.8	14.7	17.8	18.4	0.57
6.	06.12.2024	56.0	18.9	18.4	15.9	0.53
7.	07.12.2024	56.5	20.8	16.3	15.9	0.62
8.	08.12.2024	62.0	13.7	19.5	20.0	0.65
9.	09.12.2024	64.5	13.8	22.4	17.9	0.59
10.	10.12.2024	58.0	16.3	21.3	19.7	0.65
11.	11.12.2024	65.7	18.1	18.2	16.1	0.67
12.	12.12.2024	64.8	15.4	20.0	19.6	0.53
13.	13.12.2024	65.1	20.3	20.8	16.0	0.53
14.	14.12.2024	57.6	16.2	18.1	15.2	0.64
15.	15.12.2024	62.0	13.8	19.2	16.6	0.60
16.	16.12.2024	55.9	20.1	17.8	18.0	0.57
17.	17.12.2024	57.9	19.7	21.6	15.9	0.60
18.	18.12.2024	62.7	19.5	21.4	18.9	0.53
19.	19.12.2024	61.5	14.2	15.9	18.7	0.66
20.	20.12.2024	58.6	17.3	17.4	17.2	0.59
21.	21.12.2024	54.5	20.3	23.9	14.1	0.64
22.	22.12.2024	54.7	13.4	16.5	18.7	0.54
23.	23.12.2024	58.7	15.6	22.0	18.8	0.58
24.	24.12.2024	56.7	14.2	19.3	15.8	0.65
25.	25.12.2024	55.0	17.2	18.5	19.9	0.66
26.	26.12.2024	54.1	16.0	20.5	19.5	0.57
27.	27.12.2024	62.6	18.3	21.4	16.6	0.66
28.	28.12.2024	55.1	14.0	19.0	19.6	0.64
29.	29.12.2024	56.7	17.4	16.9	17.8	0.57
30.	30.12.2024	58.9	15.8	20.0	17.6	0.57
31.	31.12.2024	63.5	18.0	22.8	18.3	0.62
Average		59.4	16.9	19.2	17.7	0.60

Note- No_x is Given as No₂

---End of Report---

Verified By

Technical Manager

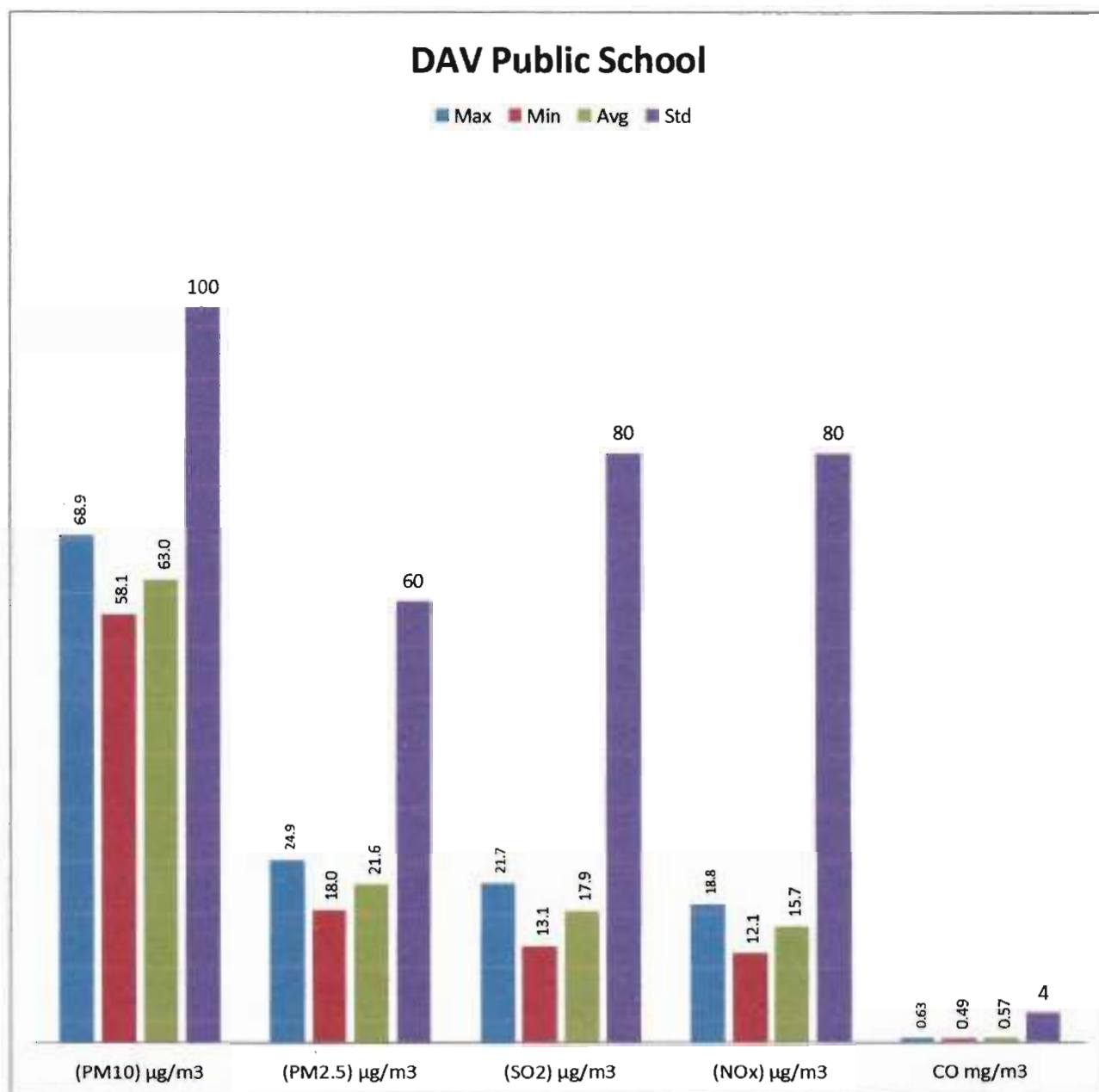
Authorized By

Quality Manager



3.1.2 DAV Public School (A2):

The pollution level in DAV Public School for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **68.9** µg/m³ whereas minimum concentration was observed **58.1** µg/m³ during the month. PM_{2.5} concentration ranges between **18.0** µg/m³ to **24.9** µg/m³, SO₂ concentration ranges between **13.1** µg/m³ to **21.7** µg/m³, NO_x as (NO₂) concentration ranges between **12.1** µg/m³ to **18.8** µg/m³ and CO concentration ranges between **0.49** mg/m³ to **0.63** mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/68

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-2: DAV Public School
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.12.2024	67.2	19.7	20.9	12.1	0.56
2.	02.12.2024	60.5	22.5	21.6	18.3	0.49
3.	03.12.2024	60.8	22.9	17.4	15.9	0.58
4.	04.12.2024	59.3	24.9	21.0	12.5	0.58
5.	05.12.2024	66.0	23.8	21.7	18.4	0.57
6.	06.12.2024	61.6	20.0	16.2	17.2	0.59
7.	07.12.2024	67.8	19.6	17.4	13.9	0.51
8.	08.12.2024	66.9	18.7	18.3	18.0	0.59
9.	09.12.2024	68.0	18.8	17.0	13.5	0.53
10.	10.12.2024	60.1	23.2	21.6	15.8	0.56
11.	11.12.2024	62.9	18.0	15.5	12.4	0.59
12.	12.12.2024	63.3	24.5	20.1	18.5	0.50
13.	13.12.2024	58.1	18.6	14.0	15.9	0.62
14.	14.12.2024	60.1	18.2	15.0	13.3	0.58
15.	15.12.2024	68.9	20.9	17.0	12.4	0.61
16.	16.12.2024	66.1	22.4	19.5	18.8	0.61
17.	17.12.2024	60.9	21.1	17.7	15.5	0.58
18.	18.12.2024	67.1	21.8	18.2	16.8	0.63
19.	19.12.2024	64.6	24.5	19.9	15.2	0.55
20.	20.12.2024	64.7	18.0	19.7	14.5	0.61
21.	21.12.2024	62.6	23.1	19.1	13.6	0.54
22.	22.12.2024	59.9	20.6	13.1	14.5	0.54
23.	23.12.2024	59.5	19.6	17.3	12.4	0.61
24.	24.12.2024	64.7	24.0	14.0	18.4	0.63
25.	25.12.2024	68.5	18.2	21.7	16.2	0.57
26.	26.12.2024	62.6	24.9	18.6	18.8	0.60
27.	27.12.2024	58.3	24.7	13.9	14.4	0.60
28.	28.12.2024	58.2	22.4	15.7	17.0	0.60
29.	29.12.2024	59.2	23.0	15.4	17.1	0.51
30.	30.12.2024	63.4	21.0	15.1	18.6	0.60
31.	31.12.2024	59.8	24.6	21.6	17.3	0.51
Average		63.0	21.6	17.9	15.7	0.57

Note- No_x is Given as No₂

-----End of Report-----

Verified By

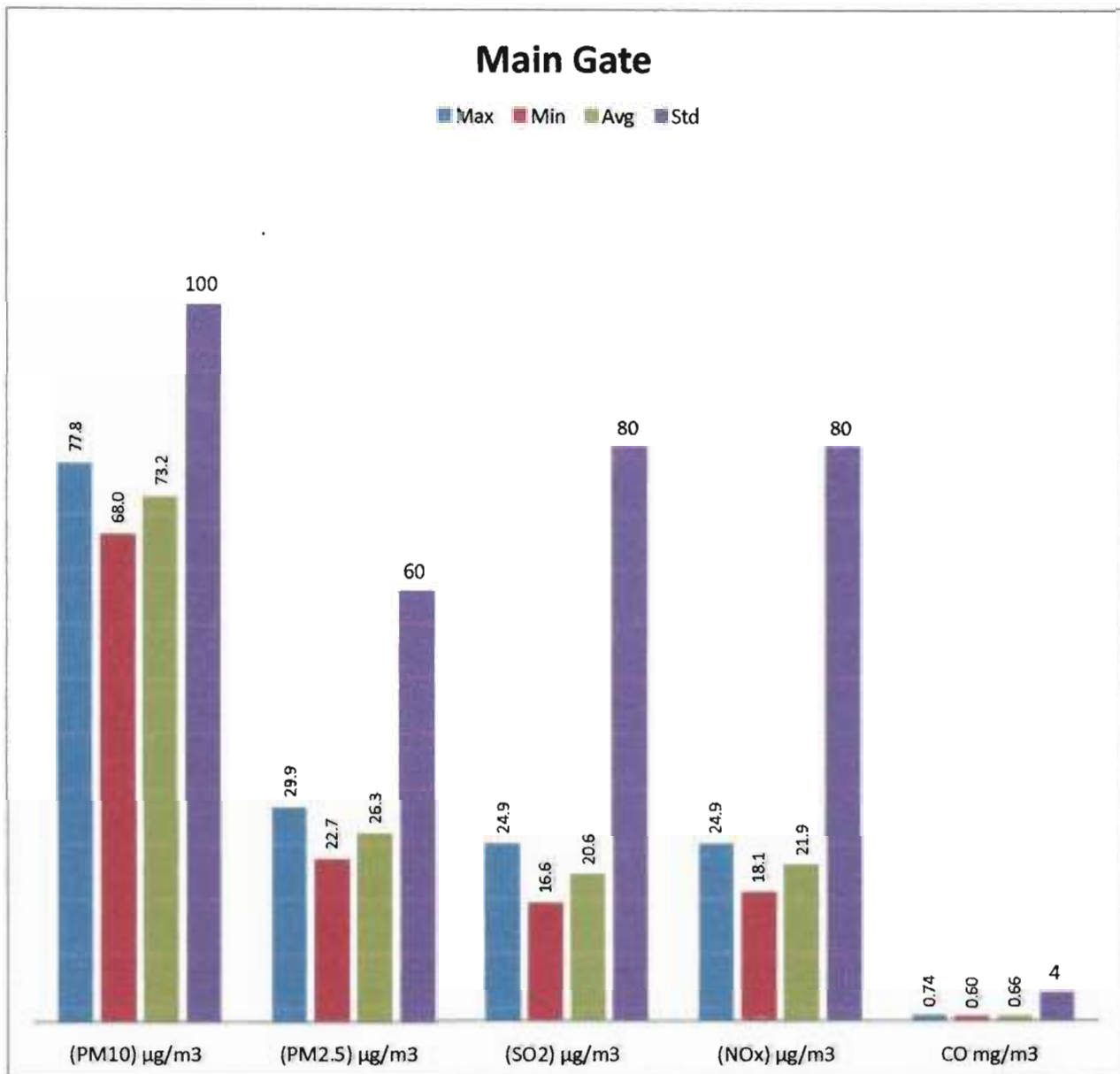

Technical Manager

Authorized By


Quality Manager


3.1.3 Main Gate (A3):

The pollution level in Main Gate for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **77.8** µg/m³ whereas minimum concentration was observed **68.0** µg/m³ during the month. PM_{2.5} concentration ranges between **22.7** µg/m³ to **29.9** µg/m³, SO₂ concentration ranges between **16.6** µg/m³ to **24.9** µg/m³, NO_x as (NO₂) concentration ranges between **18.1** µg/m³ to **24.9** µg/m³ and CO concentration ranges between **0.60** mg/m³ to **0.74** mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/69

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-3: Main Gate
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.12.2024	77.5	23.7	22.3	24.3	0.60
2.	02.12.2024	70.3	23.9	19.5	18.5	0.61
3.	03.12.2024	77.3	29.1	23.5	22.4	0.66
4.	04.12.2024	72.6	27.4	19.4	22.4	0.74
5.	05.12.2024	74.2	29.9	18.2	18.3	0.73
6.	06.12.2024	68.4	28.2	17.5	21.1	0.62
7.	07.12.2024	74.9	24.2	22.2	24.9	0.68
8.	08.12.2024	77.8	27.5	17.0	23.3	0.66
9.	09.12.2024	71.6	24.3	18.2	24.4	0.68
10.	10.12.2024	74.1	26.0	18.0	23.3	0.73
11.	11.12.2024	74.4	22.7	21.1	23.4	0.71
12.	12.12.2024	76.1	24.9	19.5	20.8	0.65
13.	13.12.2024	71.0	28.7	18.8	23.7	0.64
14.	14.12.2024	76.6	22.8	21.7	21.1	0.72
15.	15.12.2024	73.7	25.5	21.1	18.1	0.60
16.	16.12.2024	73.1	24.9	20.9	23.5	0.68
17.	17.12.2024	76.8	28.3	18.8	22.8	0.69
18.	18.12.2024	76.8	27.9	17.3	24.1	0.67
19.	19.12.2024	72.3	27.9	24.8	20.6	0.61
20.	20.12.2024	75.6	25.9	22.8	22.9	0.64
21.	21.12.2024	71.7	27.6	18.1	18.5	0.61
22.	22.12.2024	69.2	25.6	24.8	23.2	0.63
23.	23.12.2024	72.8	25.5	24.9	18.3	0.67
24.	24.12.2024	69.1	28.0	20.1	18.4	0.65
25.	25.12.2024	70.7	24.6	24.0	19.7	0.64
26.	26.12.2024	70.2	29.4	22.1	22.9	0.61
27.	27.12.2024	72.0	29.4	21.8	24.0	0.67
28.	28.12.2024	74.5	24.9	24.0	23.1	0.62
29.	29.12.2024	71.9	28.3	22.5	23.4	0.67
30.	30.12.2024	68.0	22.7	16.6	21.6	0.69
31.	31.12.2024	73.4	26.0	17.7	22.0	0.66
Average		73.2	26.3	20.6	21.9	0.66

Note- No_x is Given as No₂

-----End of Report-----

Verified By

Technical Manager

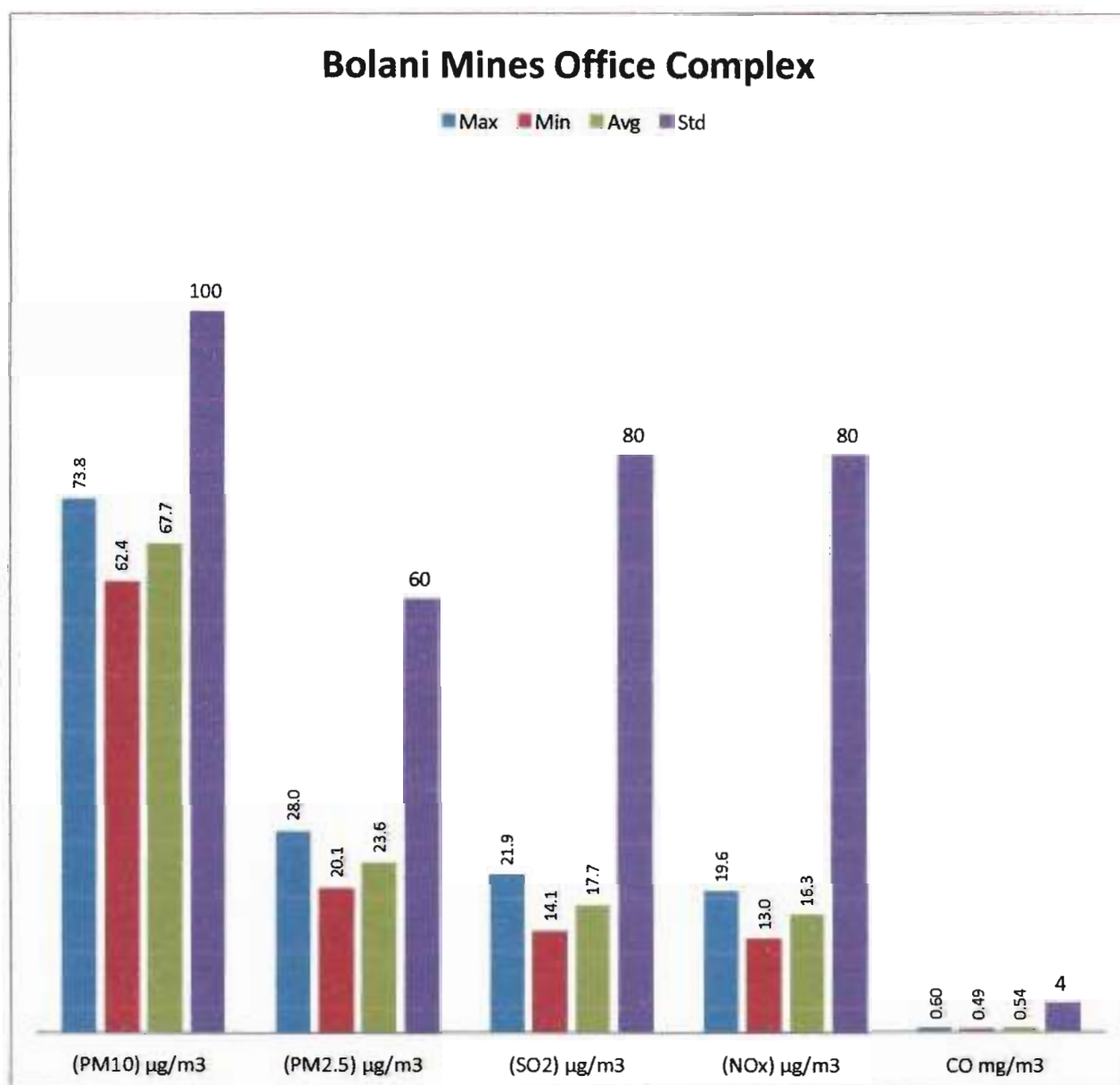
Authorized By

Quality Manager



3.1.4 Bolani Mines Office Complex (A4):

The pollution level in Bolani Mines Office Complex for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **73.8** µg/m³ whereas minimum concentration was observed **62.4** µg/m³ during the month. PM_{2.5} concentration ranges between **20.1** µg/m³ to **28.0** µg/m³, SO₂ concentration ranges between **14.1** µg/m³ to **21.9** µg/m³, NO_x as (NO₂) concentration ranges between **13.0** µg/m³ to **19.6** µg/m³ and CO concentration ranges between **0.49** mg/m³ to **0.60** mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/70

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-4: Bolani Mines Office Complex
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.12.2024	67.0	23.9	21.6	13.9	0.59
2.	02.12.2024	71.1	23.5	15.4	15.1	0.60
3.	03.12.2024	72.2	21.4	14.1	18.0	0.50
4.	04.12.2024	70.3	27.0	20.0	18.6	0.54
5.	05.12.2024	69.3	22.4	14.8	17.0	0.50
6.	06.12.2024	67.9	26.4	17.4	19.6	0.55
7.	07.12.2024	70.5	20.8	14.6	16.8	0.56
8.	08.12.2024	65.0	28.0	17.9	19.5	0.55
9.	09.12.2024	70.2	22.5	14.4	18.6	0.52
10.	10.12.2024	62.4	21.9	14.6	15.2	0.59
11.	11.12.2024	67.7	20.2	19.4	18.9	0.55
12.	12.12.2024	64.7	21.6	16.8	15.9	0.54
13.	13.12.2024	66.3	20.5	18.8	14.7	0.52
14.	14.12.2024	73.8	22.1	21.0	14.3	0.54
15.	15.12.2024	69.8	22.0	21.4	15.8	0.51
16.	16.12.2024	62.6	26.2	21.9	16.4	0.53
17.	17.12.2024	66.1	23.7	20.6	14.2	0.58
18.	18.12.2024	72.4	26.6	17.1	14.2	0.50
19.	19.12.2024	66.5	23.1	15.7	15.0	0.54
20.	20.12.2024	65.0	27.3	18.4	15.5	0.57
21.	21.12.2024	65.4	25.4	15.0	15.0	0.54
22.	22.12.2024	64.0	24.6	14.7	15.4	0.59
23.	23.12.2024	70.4	23.2	15.6	17.0	0.57
24.	24.12.2024	66.5	26.8	21.3	13.0	0.59
25.	25.12.2024	64.0	24.6	15.7	17.4	0.53
26.	26.12.2024	66.5	21.8	16.2	15.7	0.55
27.	27.12.2024	63.9	22.1	15.9	18.9	0.51
28.	28.12.2024	72.0	25.9	21.8	17.4	0.51
29.	29.12.2024	70.2	20.1	21.4	15.3	0.49
30.	30.12.2024	69.8	23.8	19.6	15.0	0.52
31.	31.12.2024	65.8	21.3	16.2	19.1	0.56
Average		67.7	23.6	17.7	16.3	0.54

Note- No_x is Given as No₂

----End of Report----

Verified By

Technical Manager

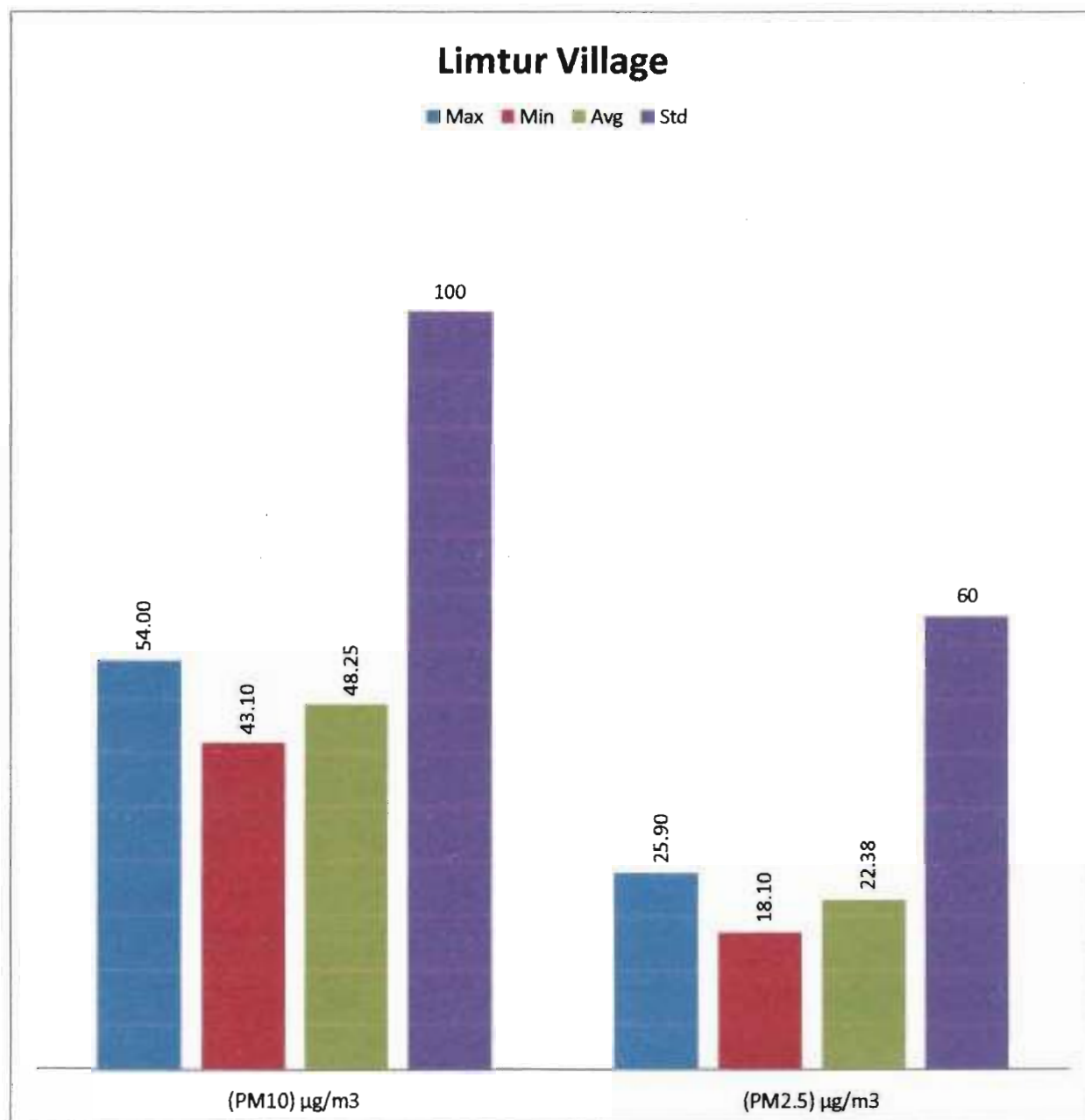
Authorized By

Quality Manager



3.1.5 Limtur Village (A5):

The pollution level in Limtur Village for the parameters PM_{10} and $PM_{2.5}$ is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed **54.00** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **43.10** $\mu\text{g}/\text{m}^3$ and $PM_{2.5}$ concentration ranges between **18.10** $\mu\text{g}/\text{m}^3$ to **25.90** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/71

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : **AAQMS-5: Limtur Village**
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.12.2024	51.8	25.0
2.	02.12.2024	45.8	22.0
3.	03.12.2024	52.3	25.5
4.	04.12.2024	52.7	21.2
5.	05.12.2024	51.6	21.3
6.	06.12.2024	47.1	25.3
7.	07.12.2024	43.6	22.7
8.	08.12.2024	50.1	25.6
9.	09.12.2024	53.6	25.9
10.	10.12.2024	46.3	24.8
11.	11.12.2024	43.1	19.3
12.	12.12.2024	44.7	18.9
13.	13.12.2024	44.6	22.2
14.	14.12.2024	44.8	22.4
15.	15.12.2024	49.6	20.3
16.	16.12.2024	52.9	22.5
17.	17.12.2024	51.7	25.0
18.	18.12.2024	45.1	25.5
19.	19.12.2024	49.1	21.6
20.	20.12.2024	45.4	22.6
21.	21.12.2024	51.3	24.1
22.	22.12.2024	49.8	25.3
23.	23.12.2024	52.5	19.5
24.	24.12.2024	44.2	20.7
25.	25.12.2024	46.7	18.1
26.	26.12.2024	44.4	20.5
27.	27.12.2024	52.1	18.7
28.	28.12.2024	54.0	19.7
29.	29.12.2024	46.4	24.7
30.	30.12.2024	44.9	24.4
31.	31.12.2024	43.7	18.5
Average		48.25	22.38

----End of Report----

Verified By

Technician Manager

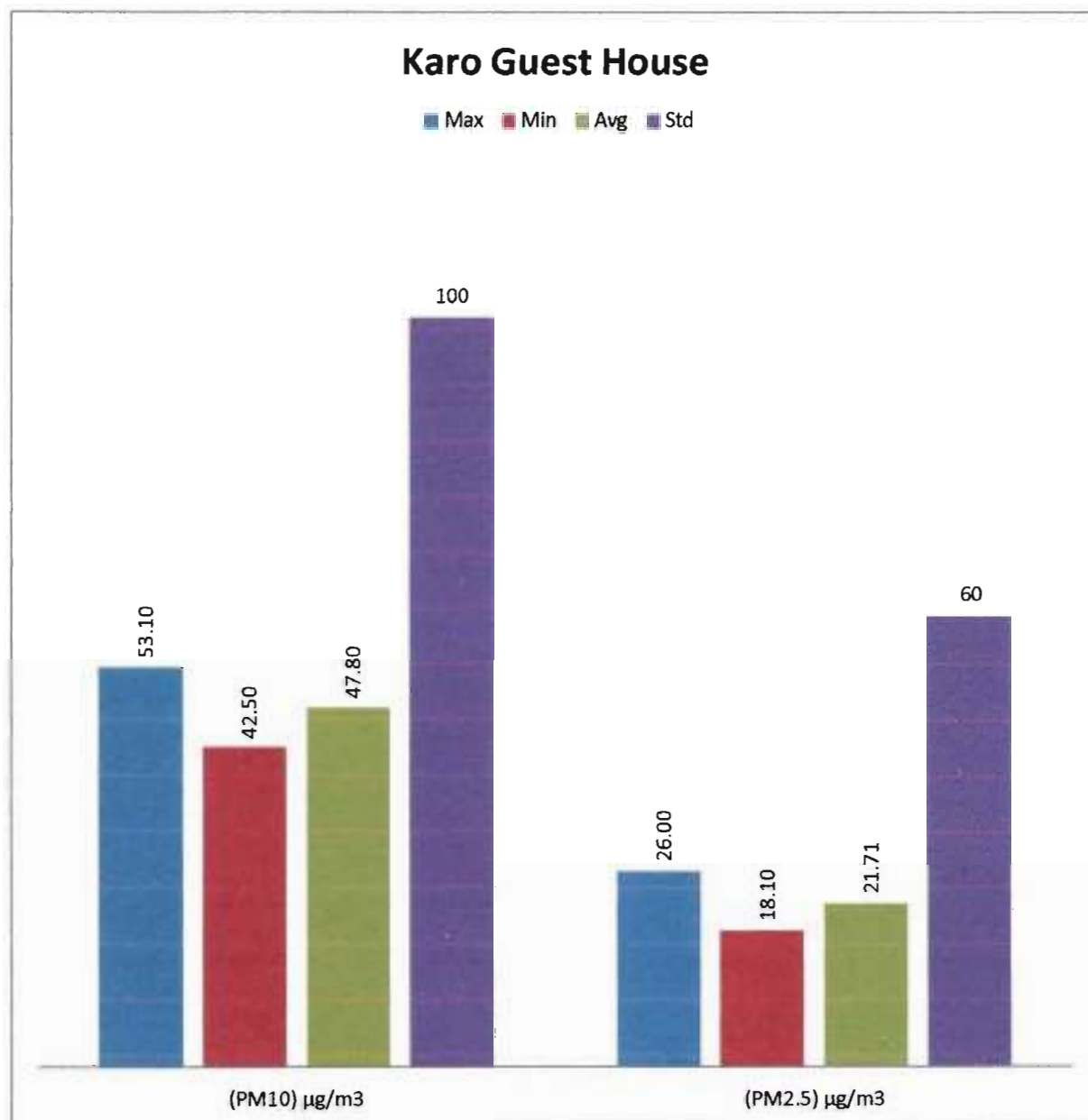
Authorized By

Quality Manager



3.1.6 Karo Guest House (A6):

The pollution level in Karo Guest House for the parameters PM_{10} and $PM_{2.5}$ is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed **53.10** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **42.50** $\mu\text{g}/\text{m}^3$ and $PM_{2.5}$ concentration ranges between **18.10** $\mu\text{g}/\text{m}^3$ to **26.00** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/72

Test Report Issue date: 05.01.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)**
3. Sampling Location : **AAQMS-6: Karo Guest House**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.12.2024	44.7	24.4
2.	02.12.2024	46.3	24.4
3.	03.12.2024	51.8	19.2
4.	04.12.2024	52.8	20.7
5.	05.12.2024	47.0	19.5
6.	06.12.2024	53.1	25.0
7.	07.12.2024	42.7	18.9
8.	08.12.2024	46.8	21.8
9.	09.12.2024	45.7	18.3
10.	10.12.2024	52.8	24.0
11.	11.12.2024	46.1	25.2
12.	12.12.2024	47.9	26.0
13.	13.12.2024	42.5	20.5
14.	14.12.2024	50.7	21.0
15.	15.12.2024	48.3	21.7
16.	16.12.2024	52.4	24.7
17.	17.12.2024	50.9	18.7
18.	18.12.2024	47.2	19.0
19.	19.12.2024	49.4	24.9
20.	20.12.2024	50.4	19.4
21.	21.12.2024	46.5	20.9
22.	22.12.2024	42.5	18.1
23.	23.12.2024	46.6	20.6
24.	24.12.2024	46.2	24.2
25.	25.12.2024	44.5	25.2
26.	26.12.2024	46.2	18.1
27.	27.12.2024	47.6	25.4
28.	28.12.2024	47.8	24.6
29.	29.12.2024	51.7	19.5
30.	30.12.2024	49.3	20.2
31.	31.12.2024	43.4	18.9
Average		47.80	21.71

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



3.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring:

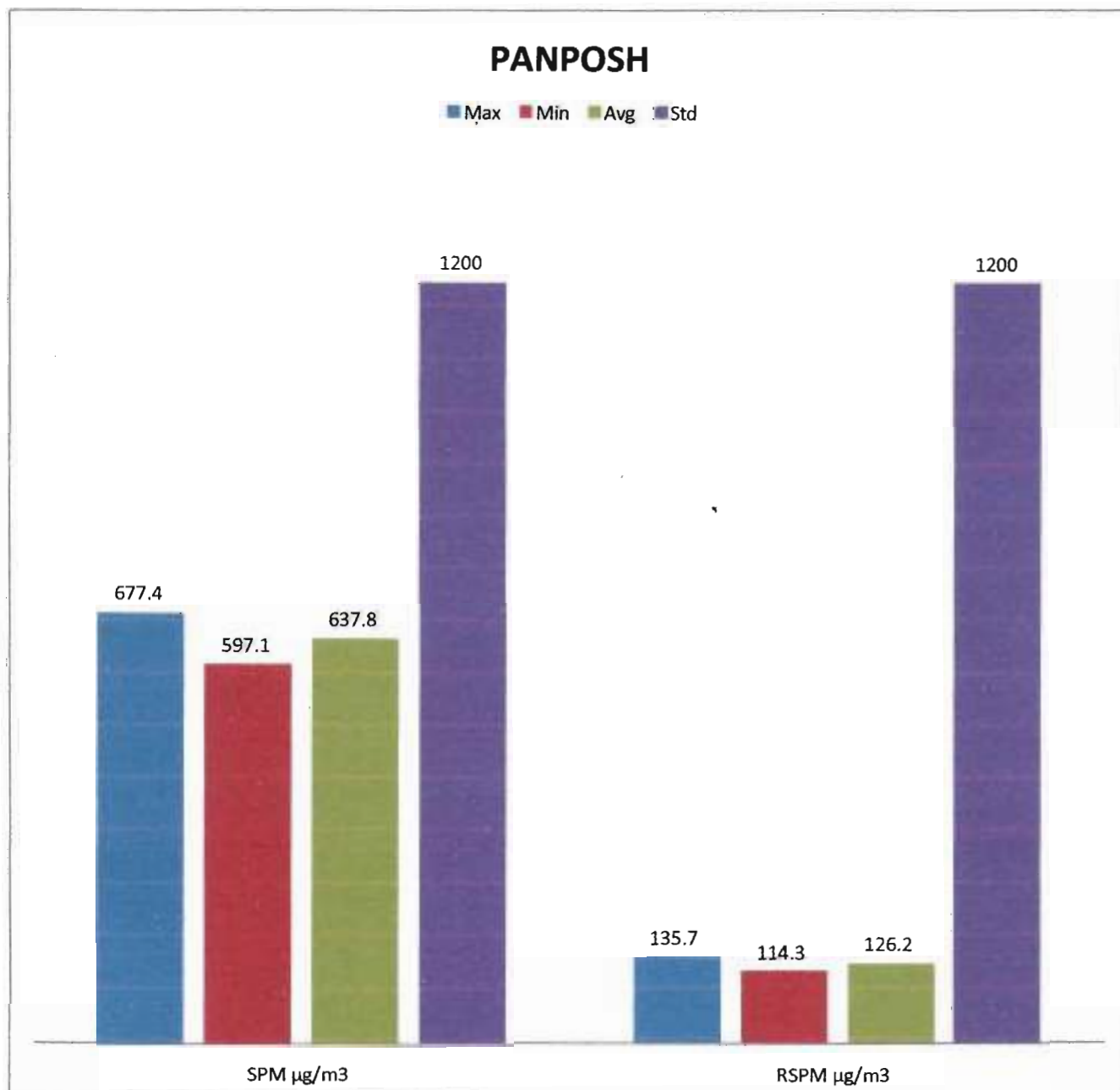
The Summarized results of Work Zone Air Quality/Fugitive Dust Emission for the month of December-2024 are given in the **Table below**

Table No. 3.2: Summarized Results of Work Zone Air Quality/Fugitive Dust Emission

Sl. No.	Location Name	Station Code	SPM $\mu\text{g}/\text{m}^3$			RSPM $\mu\text{g}/\text{m}^3$		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Panposh	F1	677.4	597.1	637.8	135.7	114.3	126.2
2.	D Area	F2	683.9	598.6	635.6	138.1	110.6	125.7
3.	F Area	F3	674.0	598.4	638.3	137.4	110.2	124.3
4.	G Area	F4	682.8	602.6	636.9	139.9	108.8	125.1
5.	Lump Loading Point (near 600TPH)	F5	676.8	590.7	628.6	135.2	107.7	121.2
6.	Fines Loading Plant	F6	681.2	603.7	645.4	141.1	113.5	127.0
7.	Dump Fines handling route	F7	684.9	597.6	641.5	138.9	109.7	125.8
8.	SSP	F8	671.8	597.2	632.2	139.0	108.8	122.8
9.	Dump Fines Handling Site	F9	678.3	593.2	631.8	141.8	110.1	123.2
10.	Mn Quarry	F10	676.5	597.5	635.3	135.9	111.3	123.6
As Per CTO Std.			1200 $\mu\text{g}/\text{m}^3$					

3.2.1 Panposh (F1):

The pollution level in Panposh Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **677.4** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **597.1** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **114.3** $\mu\text{g}/\text{m}^3$ to **135.7** $\mu\text{g}/\text{m}^3$ during the month.





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Test Report No: ECO/BOM/FUG/91

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,**
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Panposh**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Panposh	640.4	125.5
2.	02-12-2024	Panposh	612.7	128.1
3.	03-12-2024	Panposh	606.0	121.3
4.	04-12-2024	Panposh	604.3	124.9
5.	05-12-2024	Panposh	642.6	132.7
6.	06-12-2024	Panposh	631.7	131.0
7.	07-12-2024	Panposh	598.7	120.8
8.	08-12-2024	Panposh	605.3	126.5
9.	09-12-2024	Panposh	641.5	122.8
10.	10-12-2024	Panposh	677.4	131.3
11.	11-12-2024	Panposh	661.1	124.3
12.	12-12-2024	Panposh	647.8	130.0
13.	13-12-2024	Panposh	646.5	128.1
14.	14-12-2024	Panposh	649.0	133.2
15.	15-12-2024	Panposh	649.3	127.6
16.	16-12-2024	Panposh	663.2	132.6
17.	17-12-2024	Panposh	649.9	124.7
18.	18-12-2024	Panposh	676.1	133.1
19.	19-12-2024	Panposh	635.3	128.6
20.	20-12-2024	Panposh	651.5	119.5
21.	21-12-2024	Panposh	631.8	114.3
22.	22-12-2024	Panposh	636.3	121.1
23.	23-12-2024	Panposh	597.1	117.7
24.	24-12-2024	Panposh	597.1	121.3
25.	25-12-2024	Panposh	670.5	135.7
26.	26-12-2024	Panposh	642.2	122.2
27.	27-12-2024	Panposh	642.8	134.2
28.	28-12-2024	Panposh	662.9	122.0
29.	29-12-2024	Panposh	646.5	121.4
30.	30-12-2024	Panposh	645.4	126.9
31.	31-12-2024	Panposh	608.3	127.5
Average			637.8	126.2

----End of Report----

Verified By

Technical Manager

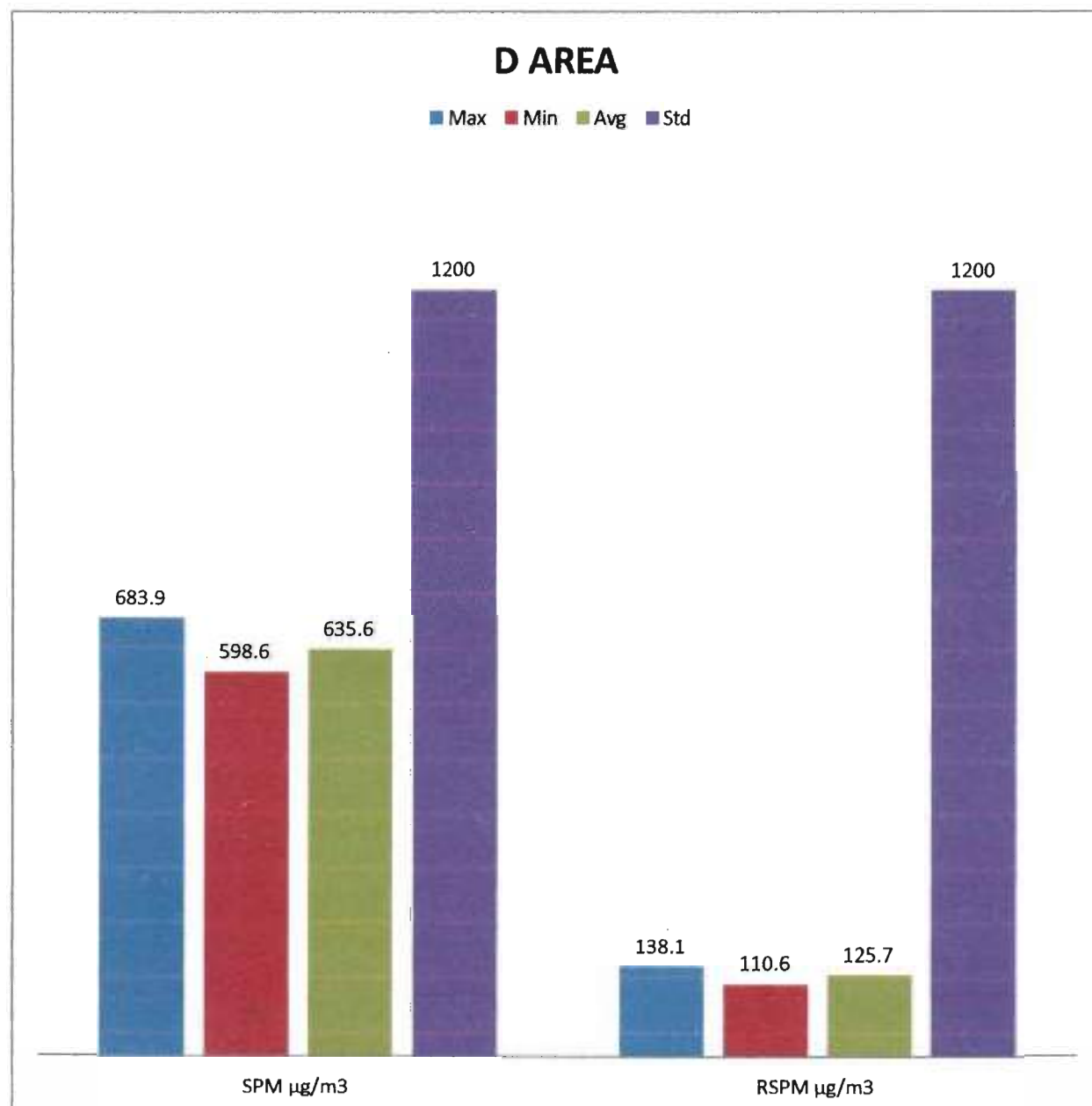
Authorized By

Quality Manager



3.2.2 D Area(F2)

The pollution level in D Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **683.9** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **598.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **110.6** $\mu\text{g}/\text{m}^3$ to **138.1** $\mu\text{g}/\text{m}^3$ during the month.





ECOMEN MINING PRIVATE LIMITED

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/92

Test Report Issue date: 05.01.2025

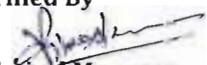
FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **D Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	D Area	631.6	123.8
2.	02-12-2024	D Area	616.2	125.9
3.	03-12-2024	D Area	606.3	125.4
4.	04-12-2024	D Area	627.9	128.8
5.	05-12-2024	D Area	643.9	131.7
6.	06-12-2024	D Area	673.6	127.3
7.	07-12-2024	D Area	656.5	124.0
8.	08-12-2024	D Area	616.7	116.3
9.	09-12-2024	D Area	636.8	125.5
10.	10-12-2024	D Area	682.2	136.7
11.	11-12-2024	D Area	621.2	130.3
12.	12-12-2024	D Area	611.9	112.5
13.	13-12-2024	D Area	603.5	118.0
14.	14-12-2024	D Area	636.8	123.9
15.	15-12-2024	D Area	663.9	128.2
16.	16-12-2024	D Area	645.3	133.9
17.	17-12-2024	D Area	604.1	116.3
18.	18-12-2024	D Area	609.0	119.6
19.	19-12-2024	D Area	602.5	110.6
20.	20-12-2024	D Area	661.9	136.5
21.	21-12-2024	D Area	608.9	122.8
22.	22-12-2024	D Area	640.9	132.3
23.	23-12-2024	D Area	657.3	124.6
24.	24-12-2024	D Area	647.0	130.6
25.	25-12-2024	D Area	601.4	126.1
26.	26-12-2024	D Area	683.9	138.1
27.	27-12-2024	D Area	660.9	121.6
28.	28-12-2024	D Area	658.0	129.0
29.	29-12-2024	D Area	651.2	130.1
30.	30-12-2024	D Area	644.7	130.4
31.	31-12-2024	D Area	598.6	115.6
Average			635.6	125.7

----End of Report----

Verified By


Technical Manager

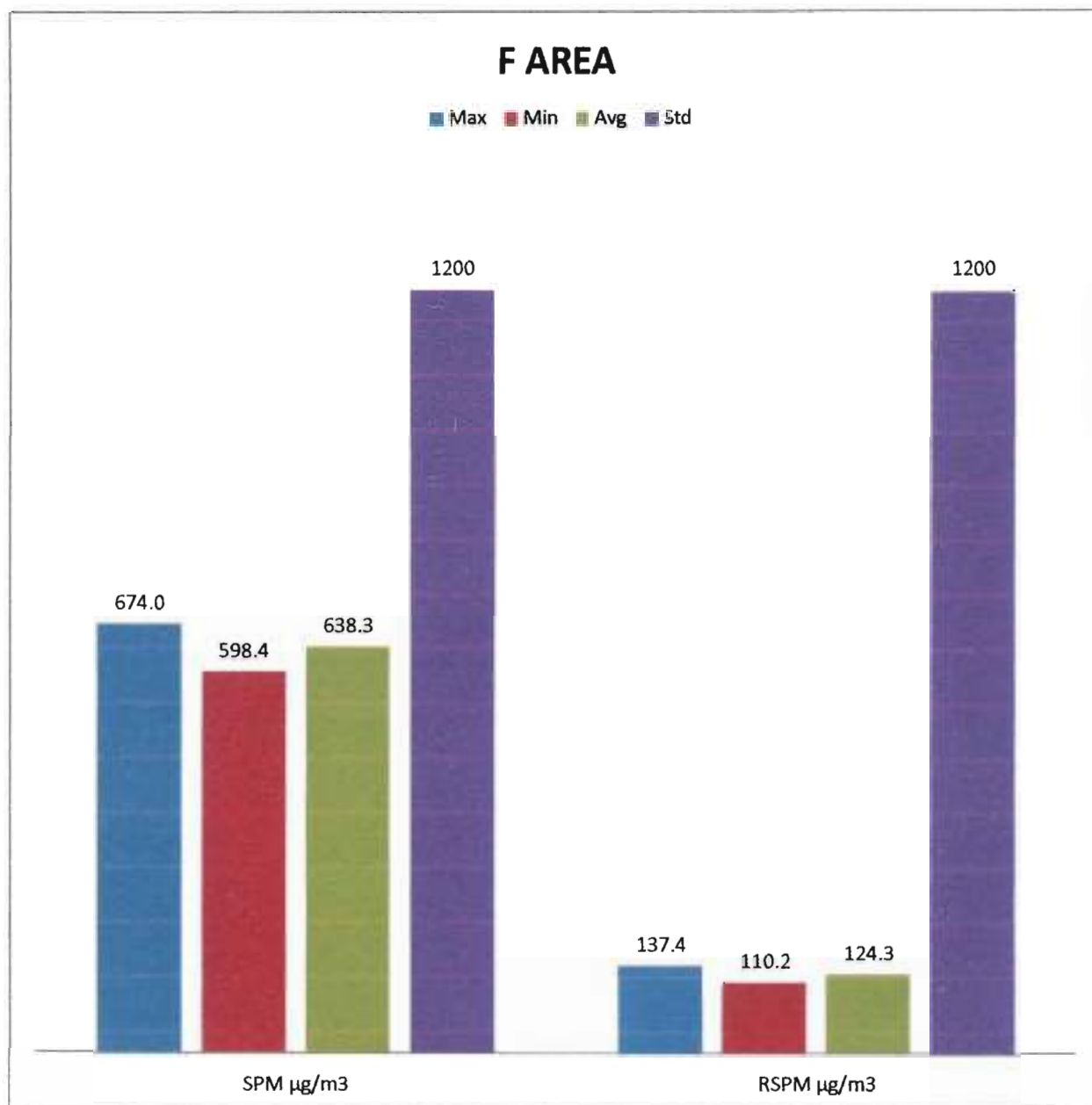
Authorized By


Quality Manager



3.2.3 F Area(F3)

The pollution level in F Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **674.0** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **598.4** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **110.2** $\mu\text{g}/\text{m}^3$ to **137.4** $\mu\text{g}/\text{m}^3$ during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

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Test Report No: ECO/BOM/FUG/93

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **F Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	F Area	667.1	137.4
2.	02-12-2024	F Area	619.6	124.7
3.	03-12-2024	F Area	653.3	124.1
4.	04-12-2024	F Area	660.0	119.5
5.	05-12-2024	F Area	619.5	127.8
6.	06-12-2024	F Area	644.9	118.4
7.	07-12-2024	F Area	622.4	117.2
8.	08-12-2024	F Area	612.5	121.2
9.	09-12-2024	F Area	653.6	126.1
10.	10-12-2024	F Area	616.5	129.4
11.	11-12-2024	F Area	653.2	129.0
12.	12-12-2024	F Area	638.2	128.9
13.	13-12-2024	F Area	603.3	110.2
14.	14-12-2024	F Area	670.6	125.2
15.	15-12-2024	F Area	674.0	124.3
16.	16-12-2024	F Area	608.6	123.3
17.	17-12-2024	F Area	657.2	125.5
18.	18-12-2024	F Area	667.8	135.4
19.	19-12-2024	F Area	643.6	127.8
20.	20-12-2024	F Area	600.0	111.2
21.	21-12-2024	F Area	627.0	117.8
22.	22-12-2024	F Area	598.4	111.9
23.	23-12-2024	F Area	671.5	127.8
24.	24-12-2024	F Area	607.3	126.9
25.	25-12-2024	F Area	649.7	133.9
26.	26-12-2024	F Area	672.2	122.9
27.	27-12-2024	F Area	649.4	130.8
28.	28-12-2024	F Area	667.9	135.1
29.	29-12-2024	F Area	621.0	125.1
30.	30-12-2024	F Area	635.8	121.9
31.	31-12-2024	F Area	599.7	113.6
Average			638.3	124.3

----End of Report----

Verified By

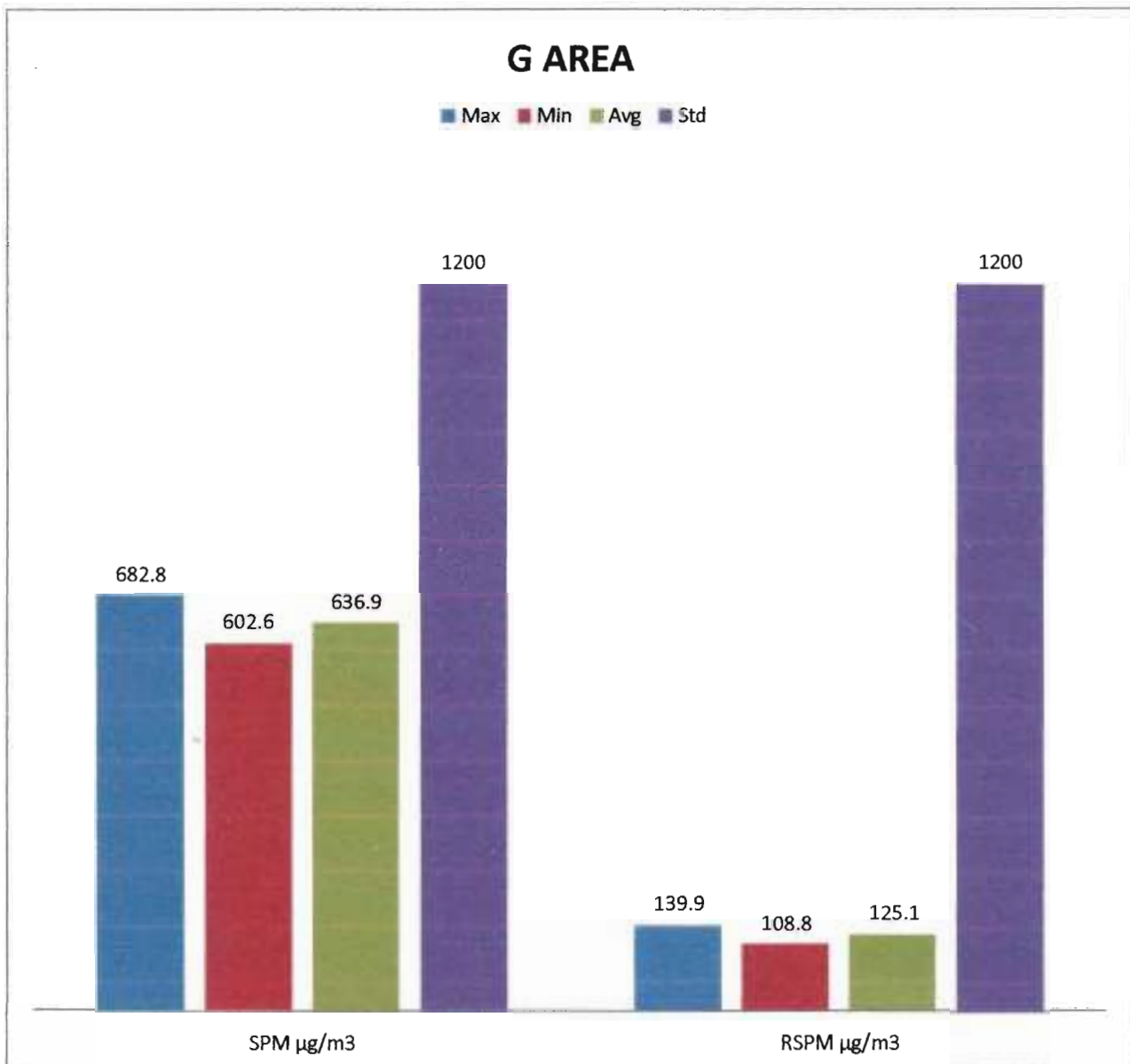
Technical Manager

Authorized By

Quality Manager

3.2.4 G Area(F4)

The pollution level in G Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **682.8** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **602.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.8** $\mu\text{g}/\text{m}^3$ to **125.1** $\mu\text{g}/\text{m}^3$ during the month



Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/94

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **G Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	G Area	620.5	130.0
2.	02-12-2024	G Area	623.8	129.2
3.	03-12-2024	G Area	602.6	110.9
4.	04-12-2024	G Area	642.4	131.4
5.	05-12-2024	G Area	664.8	130.4
6.	06-12-2024	G Area	661.3	133.4
7.	07-12-2024	G Area	624.2	125.0
8.	08-12-2024	G Area	638.6	130.0
9.	09-12-2024	G Area	639.2	117.3
10.	10-12-2024	G Area	603.9	108.8
11.	11-12-2024	G Area	636.1	124.8
12.	12-12-2024	G Area	630.2	118.1
13.	13-12-2024	G Area	660.7	121.9
14.	14-12-2024	G Area	634.4	116.5
15.	15-12-2024	G Area	682.8	138.1
16.	16-12-2024	G Area	671.6	131.2
17.	17-12-2024	G Area	630.8	120.9
18.	18-12-2024	G Area	675.6	128.6
19.	19-12-2024	G Area	654.0	132.1
20.	20-12-2024	G Area	607.2	121.6
21.	21-12-2024	G Area	609.5	120.1
22.	22-12-2024	G Area	612.9	124.8
23.	23-12-2024	G Area	605.0	126.8
24.	24-12-2024	G Area	671.9	139.9
25.	25-12-2024	G Area	647.7	119.3
26.	26-12-2024	G Area	636.8	123.6
27.	27-12-2024	G Area	626.5	116.7
28.	28-12-2024	G Area	644.0	124.6
29.	29-12-2024	G Area	648.9	135.5
30.	30-12-2024	G Area	617.7	129.7
31.	31-12-2024	G Area	619.2	116.8
Average			636.9	125.1

----End of Report----

Verified By

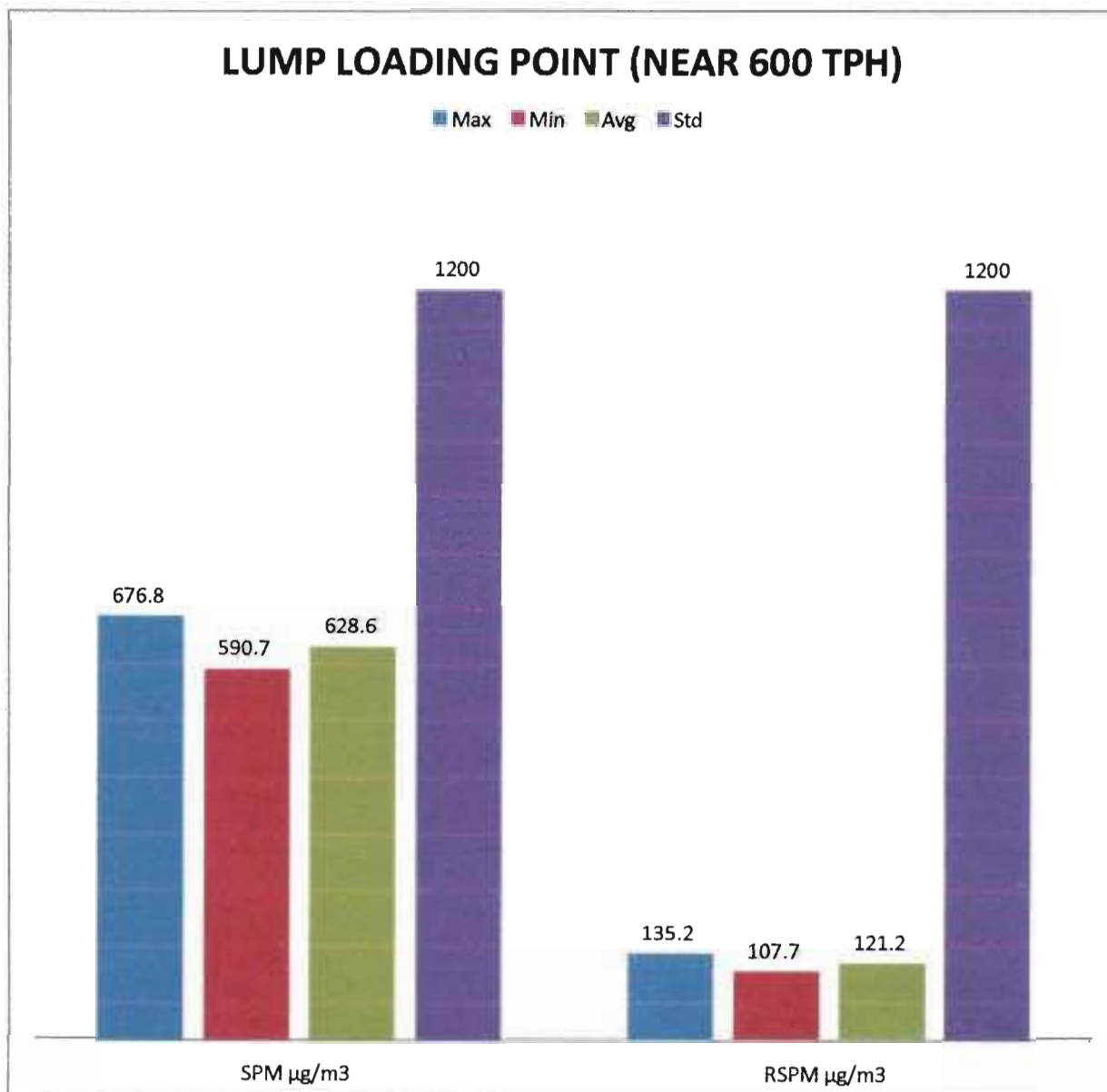
Technical Manager

Authorized By

Quality Manager

3.2.5 Lump Loading Point (Near 600 TPH) (F5)

The pollution level in Lump Loading Point (Near 600 TPH) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **676.8** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **590.7** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **107.7** $\mu\text{g}/\text{m}^3$ to **135.2** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/95

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Lump Loading Point (Near 600 TPH)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Lump Loading Point (Near 600 TPH)	591.5	109.8
2.	02-12-2024	Lump Loading Point (Near 600 TPH)	593.2	108.2
3.	03-12-2024	Lump Loading Point (Near 600 TPH)	662.7	119.6
4.	04-12-2024	Lump Loading Point (Near 600 TPH)	640.7	118.4
5.	05-12-2024	Lump Loading Point (Near 600 TPH)	598.9	124.9
6.	06-12-2024	Lump Loading Point (Near 600 TPH)	611.3	110.1
7.	07-12-2024	Lump Loading Point (Near 600 TPH)	628.3	122.0
8.	08-12-2024	Lump Loading Point (Near 600 TPH)	628.4	123.3
9.	09-12-2024	Lump Loading Point (Near 600 TPH)	627.8	123.6
10.	10-12-2024	Lump Loading Point (Near 600 TPH)	649.8	118.4
11.	11-12-2024	Lump Loading Point (Near 600 TPH)	652.6	129.9
12.	12-12-2024	Lump Loading Point (Near 600 TPH)	606.8	122.5
13.	13-12-2024	Lump Loading Point (Near 600 TPH)	660.0	133.1
14.	14-12-2024	Lump Loading Point (Near 600 TPH)	632.3	116.7
15.	15-12-2024	Lump Loading Point (Near 600 TPH)	600.2	110.0
16.	16-12-2024	Lump Loading Point (Near 600 TPH)	613.6	121.6
17.	17-12-2024	Lump Loading Point (Near 600 TPH)	595.1	107.7
18.	18-12-2024	Lump Loading Point (Near 600 TPH)	676.8	135.2
19.	19-12-2024	Lump Loading Point (Near 600 TPH)	659.4	131.8
20.	20-12-2024	Lump Loading Point (Near 600 TPH)	603.9	114.7
21.	21-12-2024	Lump Loading Point (Near 600 TPH)	590.7	113.5
22.	22-12-2024	Lump Loading Point (Near 600 TPH)	640.0	127.7
23.	23-12-2024	Lump Loading Point (Near 600 TPH)	624.0	118.6
24.	24-12-2024	Lump Loading Point (Near 600 TPH)	611.8	110.5
25.	25-12-2024	Lump Loading Point (Near 600 TPH)	597.7	113.2
26.	26-12-2024	Lump Loading Point (Near 600 TPH)	602.3	115.1
27.	27-12-2024	Lump Loading Point (Near 600 TPH)	659.3	134.9
28.	28-12-2024	Lump Loading Point (Near 600 TPH)	643.9	124.5
29.	29-12-2024	Lump Loading Point (Near 600 TPH)	666.3	127.6
30.	30-12-2024	Lump Loading Point (Near 600 TPH)	652.2	134.5
31.	31-12-2024	Lump Loading Point (Near 600 TPH)	665.1	134.1
Average			628.6	121.2

----End of Report----

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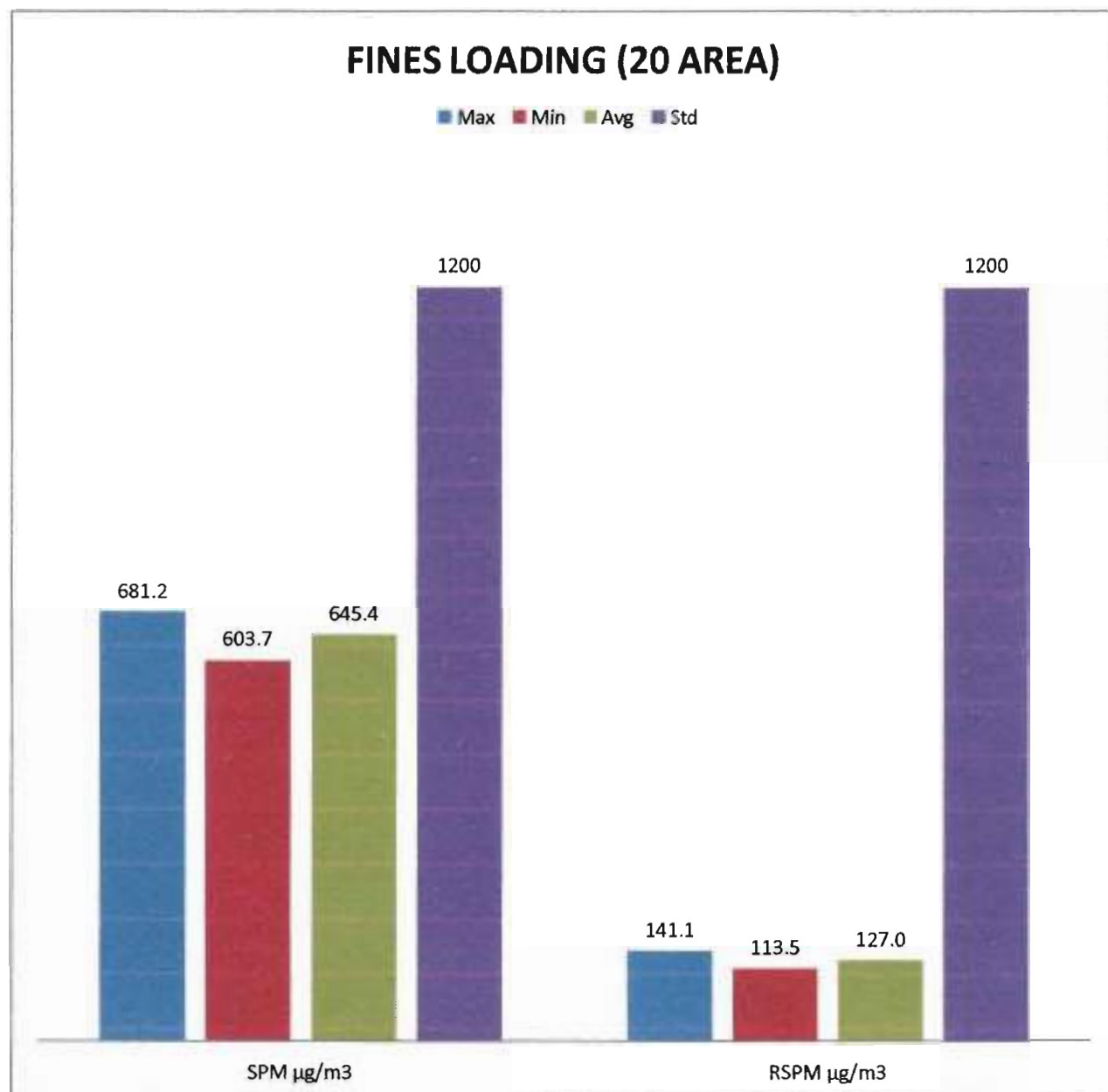
Technical Manager

Authorized By

Quality Manager

3.2.6 Fines Loading (20 area) (F6)

The pollution level in Fines Loading (20 area) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **681.2** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **603.7** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **113.5** $\mu\text{g}/\text{m}^3$ to **141.1** $\mu\text{g}/\text{m}^3$ during the month.



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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/96

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Loading (20 area)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Fines Loading (20 area)	647.0	123.0
2.	02-12-2024	Fines Loading (20 area)	623.6	113.9
3.	03-12-2024	Fines Loading (20 area)	660.2	138.4
4.	04-12-2024	Fines Loading (20 area)	607.9	115.9
5.	05-12-2024	Fines Loading (20 area)	625.7	131.1
6.	06-12-2024	Fines Loading (20 area)	603.7	119.9
7.	07-12-2024	Fines Loading (20 area)	632.1	127.6
8.	08-12-2024	Fines Loading (20 area)	610.3	123.0
9.	09-12-2024	Fines Loading (20 area)	646.5	123.6
10.	10-12-2024	Fines Loading (20 area)	650.4	133.9
11.	11-12-2024	Fines Loading (20 area)	674.1	138.5
12.	12-12-2024	Fines Loading (20 area)	656.3	134.6
13.	13-12-2024	Fines Loading (20 area)	679.5	129.4
14.	14-12-2024	Fines Loading (20 area)	663.2	127.2
15.	15-12-2024	Fines Loading (20 area)	668.3	130.0
16.	16-12-2024	Fines Loading (20 area)	611.9	113.5
17.	17-12-2024	Fines Loading (20 area)	681.2	141.1
18.	18-12-2024	Fines Loading (20 area)	627.2	119.6
19.	19-12-2024	Fines Loading (20 area)	613.6	124.5
20.	20-12-2024	Fines Loading (20 area)	662.3	135.5
21.	21-12-2024	Fines Loading (20 area)	656.6	126.0
22.	22-12-2024	Fines Loading (20 area)	644.6	132.7
23.	23-12-2024	Fines Loading (20 area)	610.2	120.6
24.	24-12-2024	Fines Loading (20 area)	635.9	126.6
25.	25-12-2024	Fines Loading (20 area)	634.1	129.8
26.	26-12-2024	Fines Loading (20 area)	680.7	127.5
27.	27-12-2024	Fines Loading (20 area)	644.2	119.2
28.	28-12-2024	Fines Loading (20 area)	665.4	136.6
29.	29-12-2024	Fines Loading (20 area)	642.9	116.5
30.	30-12-2024	Fines Loading (20 area)	677.0	127.1
31.	31-12-2024	Fines Loading (20 area)	670.7	130.2
Average			645.4	127.0

---End of Report---

Verified By

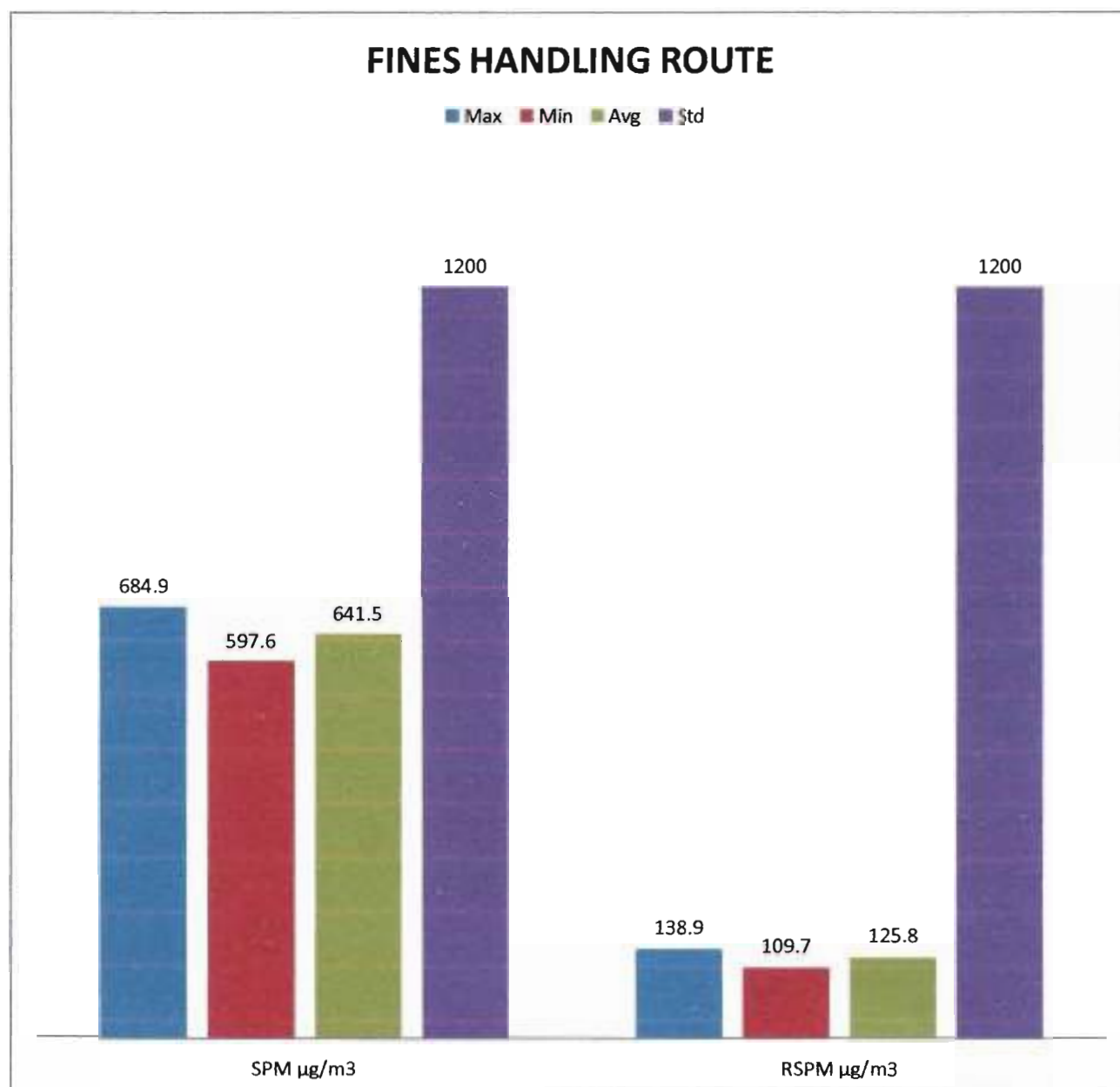
Technical Manager

Authorized By

Quality Manager

3.2.7 Fines Handling Route (F7)

The pollution level in Fines Handling Route for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **684.9** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **597.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **109.7** $\mu\text{g}/\text{m}^3$ to **138.9** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/97

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Handling Route**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Fines Handling Route	647.9	126.2
2.	02-12-2024	Fines Handling Route	660.4	121.7
3.	03-12-2024	Fines Handling Route	624.3	130.2
4.	04-12-2024	Fines Handling Route	626.9	119.8
5.	05-12-2024	Fines Handling Route	597.6	114.7
6.	06-12-2024	Fines Handling Route	656.7	120.4
7.	07-12-2024	Fines Handling Route	661.6	138.8
8.	08-12-2024	Fines Handling Route	647.4	131.7
9.	09-12-2024	Fines Handling Route	602.5	113.6
10.	10-12-2024	Fines Handling Route	624.7	123.6
11.	11-12-2024	Fines Handling Route	649.5	122.7
12.	12-12-2024	Fines Handling Route	598.3	120.9
13.	13-12-2024	Fines Handling Route	610.4	127.4
14.	14-12-2024	Fines Handling Route	676.9	128.5
15.	15-12-2024	Fines Handling Route	663.0	121.8
16.	16-12-2024	Fines Handling Route	648.7	133.2
17.	17-12-2024	Fines Handling Route	599.1	109.7
18.	18-12-2024	Fines Handling Route	655.9	127.2
19.	19-12-2024	Fines Handling Route	629.8	117.1
20.	20-12-2024	Fines Handling Route	684.9	128.7
21.	21-12-2024	Fines Handling Route	646.8	120.2
22.	22-12-2024	Fines Handling Route	670.0	131.9
23.	23-12-2024	Fines Handling Route	647.1	127.5
24.	24-12-2024	Fines Handling Route	630.7	132.3
25.	25-12-2024	Fines Handling Route	607.9	125.6
26.	26-12-2024	Fines Handling Route	679.3	138.9
27.	27-12-2024	Fines Handling Route	613.9	125.7
28.	28-12-2024	Fines Handling Route	667.8	126.1
29.	29-12-2024	Fines Handling Route	677.7	130.1
30.	30-12-2024	Fines Handling Route	621.0	128.7
31.	31-12-2024	Fines Handling Route	657.1	136.1
Average			641.5	125.8

----End of Report----

Verified By

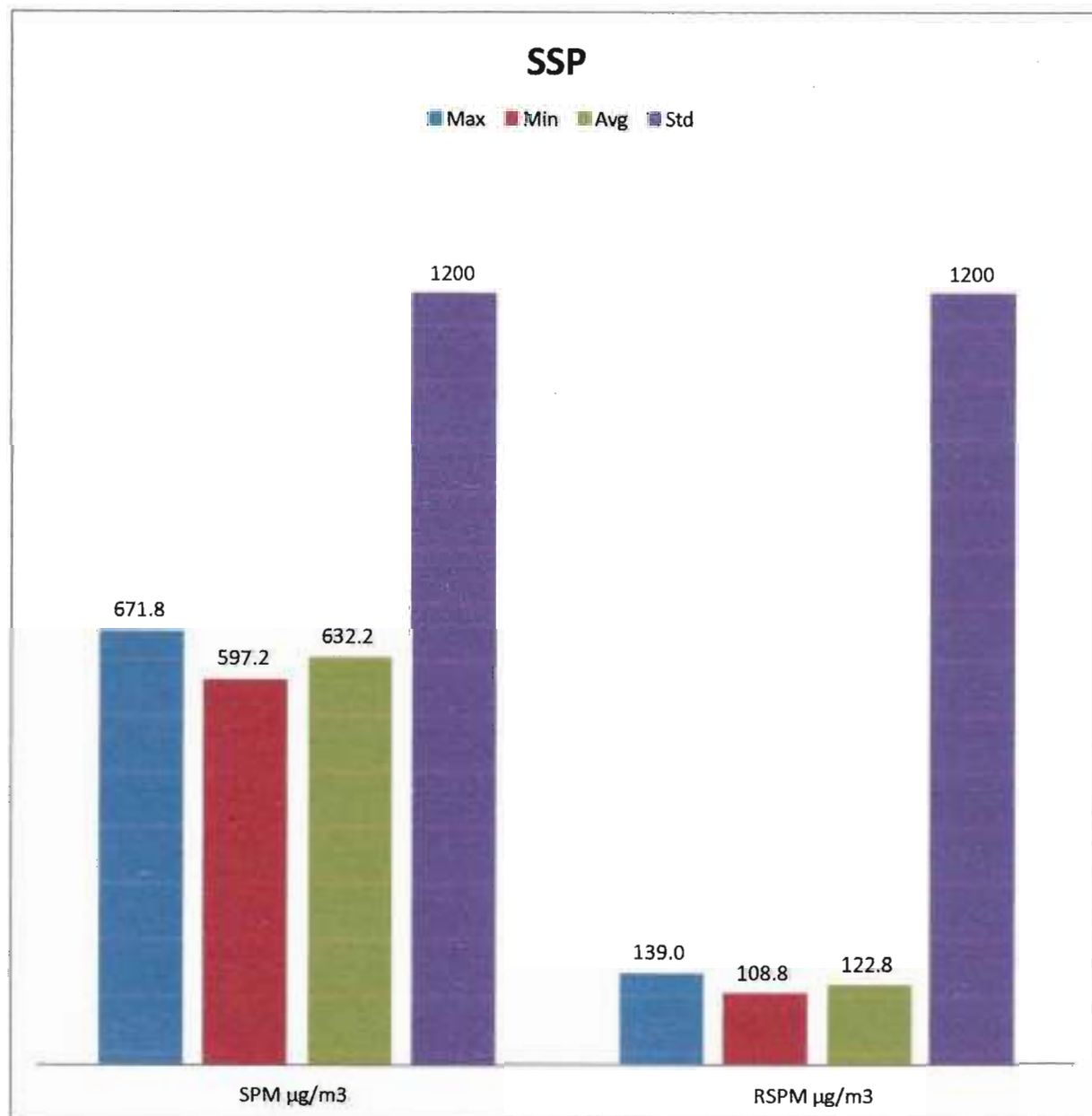
Technical Manager

Authorized By

Quality Manager

3.2.8 SSP (F8)

The pollution level in SSP Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **671.8** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **597.2** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.8** $\mu\text{g}/\text{m}^3$ to **139.0** $\mu\text{g}/\text{m}^3$ during the month.





ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Aliganj, Lucknow - 226 024

Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/98

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL)
3. Sampling Location : SSP
4. Sample collected by : EMPL representative in presence of Client's representative.

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	SSP	610.2	110.3
2.	02-12-2024	SSP	632.7	129.9
3.	03-12-2024	SSP	603.8	113.6
4.	04-12-2024	SSP	598.7	118.7
5.	05-12-2024	SSP	605.0	113.8
6.	06-12-2024	SSP	658.7	131.1
7.	07-12-2024	SSP	601.0	118.1
8.	08-12-2024	SSP	649.1	119.9
9.	09-12-2024	SSP	649.8	133.2
10.	10-12-2024	SSP	664.8	135.2
11.	11-12-2024	SSP	625.9	123.5
12.	12-12-2024	SSP	607.8	114.9
13.	13-12-2024	SSP	602.4	123.8
14.	14-12-2024	SSP	657.8	136.1
15.	15-12-2024	SSP	635.5	123.7
16.	16-12-2024	SSP	615.6	114.3
17.	17-12-2024	SSP	640.3	131.0
18.	18-12-2024	SSP	654.4	129.6
19.	19-12-2024	SSP	631.5	119.1
20.	20-12-2024	SSP	597.2	108.8
21.	21-12-2024	SSP	671.8	128.4
22.	22-12-2024	SSP	634.8	125.6
23.	23-12-2024	SSP	624.3	117.4
24.	24-12-2024	SSP	665.5	120.9
25.	25-12-2024	SSP	642.4	115.8
26.	26-12-2024	SSP	670.0	139.0
27.	27-12-2024	SSP	657.6	127.7
28.	28-12-2024	SSP	597.5	122.2
29.	29-12-2024	SSP	626.8	118.5
30.	30-12-2024	SSP	640.3	130.1
31.	31-12-2024	SSP	625.7	113.7
Average			632.2	122.8

----End of Report----

Verified By

Technical Manager

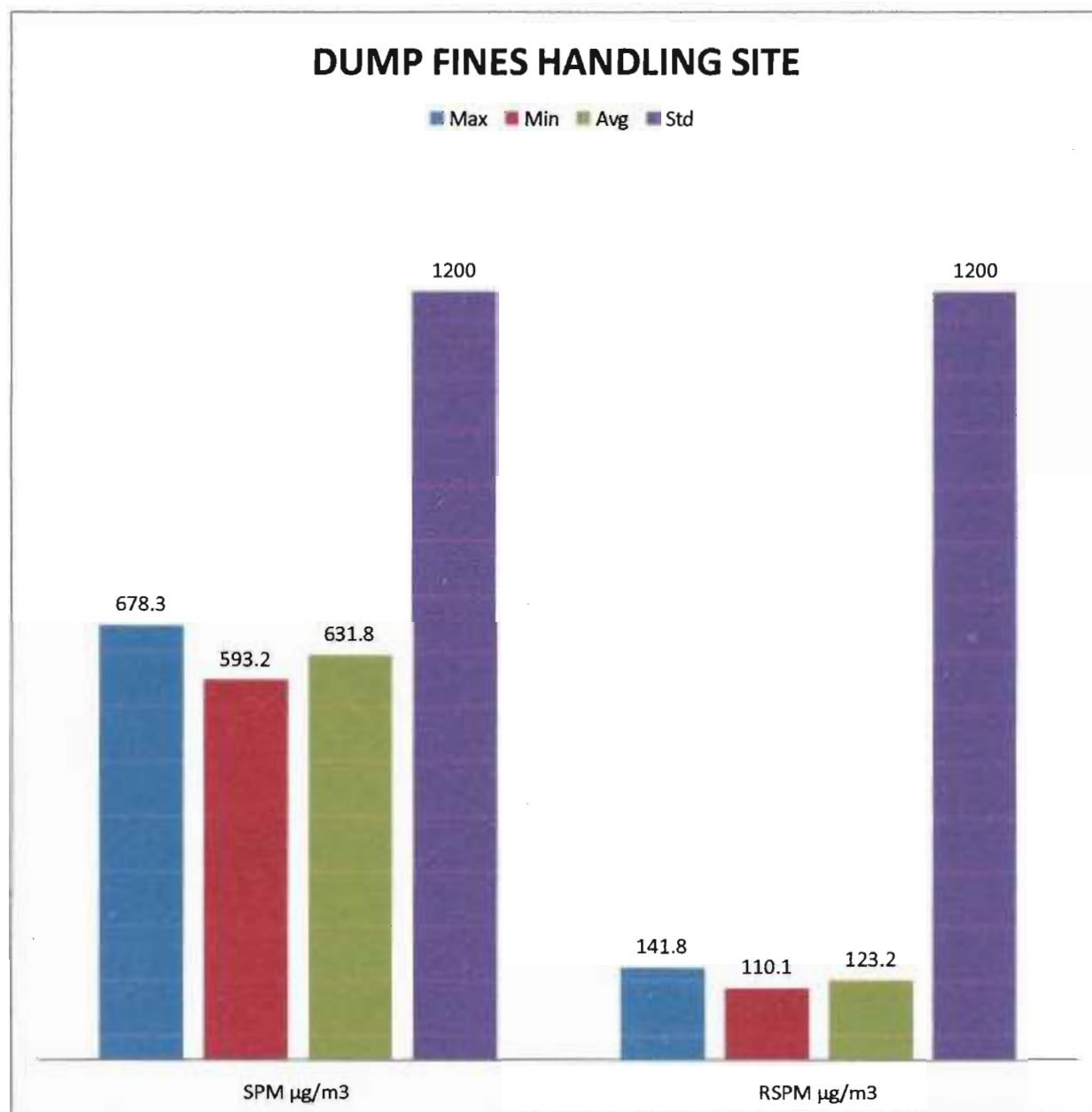
Authorized By

Quality Manager



3.2.9 Dump Fines Handling Site (F9)

The pollution level in Dump Fines Handling Site for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **678.3** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **593.2** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **110.1** $\mu\text{g}/\text{m}^3$ to **141.8** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/99

Test Report Issue date: 05.01.2025

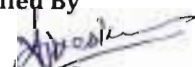
FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Dump Fines Handling Site**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Dump Fines Handling Site	642.6	119.8
2.	02-12-2024	Dump Fines Handling Site	628.5	130.6
3.	03-12-2024	Dump Fines Handling Site	664.7	137.9
4.	04-12-2024	Dump Fines Handling Site	593.2	113.2
5.	05-12-2024	Dump Fines Handling Site	647.9	116.6
6.	06-12-2024	Dump Fines Handling Site	602.9	113.7
7.	07-12-2024	Dump Fines Handling Site	623.4	118.1
8.	08-12-2024	Dump Fines Handling Site	618.5	115.8
9.	09-12-2024	Dump Fines Handling Site	594.8	111.4
10.	10-12-2024	Dump Fines Handling Site	616.3	117.2
11.	11-12-2024	Dump Fines Handling Site	668.8	124.5
12.	12-12-2024	Dump Fines Handling Site	639.9	127.3
13.	13-12-2024	Dump Fines Handling Site	646.7	118.6
14.	14-12-2024	Dump Fines Handling Site	645.7	122.2
15.	15-12-2024	Dump Fines Handling Site	648.9	135.8
16.	16-12-2024	Dump Fines Handling Site	670.9	138.8
17.	17-12-2024	Dump Fines Handling Site	606.3	114.4
18.	18-12-2024	Dump Fines Handling Site	601.5	112.5
19.	19-12-2024	Dump Fines Handling Site	634.1	122.6
20.	20-12-2024	Dump Fines Handling Site	632.1	119.1
21.	21-12-2024	Dump Fines Handling Site	612.5	124.4
22.	22-12-2024	Dump Fines Handling Site	595.3	121.2
23.	23-12-2024	Dump Fines Handling Site	650.5	136.6
24.	24-12-2024	Dump Fines Handling Site	640.9	120.9
25.	25-12-2024	Dump Fines Handling Site	613.2	121.2
26.	26-12-2024	Dump Fines Handling Site	678.3	141.8
27.	27-12-2024	Dump Fines Handling Site	612.5	119.0
28.	28-12-2024	Dump Fines Handling Site	677.5	140.8
29.	29-12-2024	Dump Fines Handling Site	609.8	110.1
30.	30-12-2024	Dump Fines Handling Site	622.9	125.7
31.	31-12-2024	Dump Fines Handling Site	645.5	128.8
Average			631.8	123.2

----End of Report----

Verified By


Technical Manager

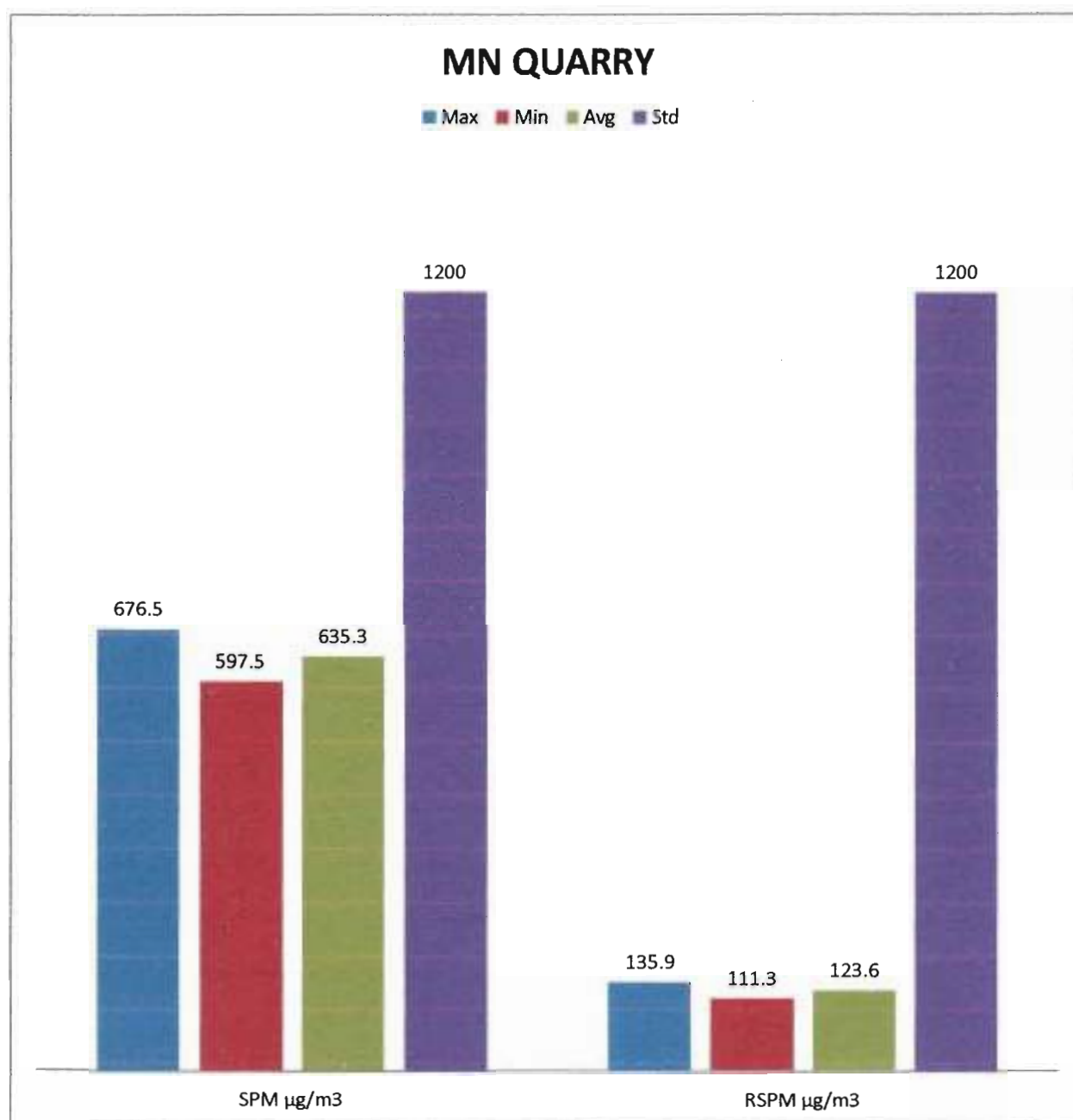
Authorized By


Quality Manager



3.2.10 Mn Quarry (F5)

The pollution level in Mn Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **676.5** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **597.5** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **111.3** $\mu\text{g}/\text{m}^3$ to **135.9** $\mu\text{g}/\text{m}^3$ during the month.



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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/100

Test Report Issue date: 05.01.2025

FUGITIVE EMISSION MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Mn Quarry**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-12-2024	Mn Quarry	647.4	118.3
2.	02-12-2024	Mn Quarry	616.8	113.3
3.	03-12-2024	Mn Quarry	668.2	132.3
4.	04-12-2024	Mn Quarry	663.0	124.6
5.	05-12-2024	Mn Quarry	614.7	126.0
6.	06-12-2024	Mn Quarry	625.4	131.0
7.	07-12-2024	Mn Quarry	619.9	126.2
8.	08-12-2024	Mn Quarry	667.6	127.3
9.	09-12-2024	Mn Quarry	661.1	124.8
10.	10-12-2024	Mn Quarry	615.5	129.1
11.	11-12-2024	Mn Quarry	676.5	133.2
12.	12-12-2024	Mn Quarry	652.7	133.8
13.	13-12-2024	Mn Quarry	617.2	115.8
14.	14-12-2024	Mn Quarry	659.4	118.8
15.	15-12-2024	Mn Quarry	601.4	111.3
16.	16-12-2024	Mn Quarry	601.5	111.3
17.	17-12-2024	Mn Quarry	597.5	118.1
18.	18-12-2024	Mn Quarry	618.6	118.2
19.	19-12-2024	Mn Quarry	632.3	117.3
20.	20-12-2024	Mn Quarry	623.1	112.2
21.	21-12-2024	Mn Quarry	659.9	121.6
22.	22-12-2024	Mn Quarry	626.7	123.6
23.	23-12-2024	Mn Quarry	600.9	116.0
24.	24-12-2024	Mn Quarry	645.9	128.6
25.	25-12-2024	Mn Quarry	612.1	126.8
26.	26-12-2024	Mn Quarry	603.9	113.6
27.	27-12-2024	Mn Quarry	673.6	133.0
28.	28-12-2024	Mn Quarry	627.0	130.7
29.	29-12-2024	Mn Quarry	621.6	128.4
30.	30-12-2024	Mn Quarry	673.7	130.8
31.	31-12-2024	Mn Quarry	670.1	135.9
Average			635.3	123.6

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



3.3 Surface/Effluent/Drinking Water Quality:

As per the guideline of CPCB, the following criteria shall be taken into consideration for use of the surface water bodies. Reports below shows the surface water quality analysis results at identified locations near the ML area.

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	- Total Coliforms Organism MPN/100ml shall be 50 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 6mg/l or more - Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor bathing (Organized)	B	- Total Coliforms Organism MPN/100ml shall be 500 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 5mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	- Total Coliforms Organism MPN/100ml shall be 5000 or less - pH between 6 to 9 - Dissolved Oxygen 4mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	- pH between 6.5 to 8.5 - Dissolved Oxygen 4mg/l or more - Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	- pH between 6.0 to 8.5 - Electrical Conductivity at 25C micro mhos/cm Max. 2250 - Sodium absorption Ratio Max. 26 - Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.3.1 Surface Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001038F
		Test Report No.	ECO/LAB/SW/0341/1038/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0341	Name of Location	Karo Near Lease Boundary at Linture Village
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1038/12/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is- 2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	35.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	32.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	3.1	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	24.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.08	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	<5.0	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.05	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.04	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-006	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Work Order No.#	EMPLVVO/IDMA/10/2024	Dated 23/10/2024
Type of Sample#	Surface Water	
Customer's Description of Sample#	Surface Water	
Mode of Collection of Sample	By Hand	
Date of Sampling	23/12/2024	
Visual Observation	N/A	
Packing, Markings, Seal#	Plastic Bottle. (Loc.Karo Near Lease Boundry at Limtur Village)	
Quantity#	01 Ltr.	
Date of Receipt of Sample	23/12/2024	
Period of Analysis	23/12/2024 To 28/12/2024	
Date of Reporting	28/12/2024	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.29	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.004	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

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Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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- Samples not drawn by us unless otherwise stated.
- Total liability of Idma Laboratories Limited is limited to the invoiced amount.
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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001039F
		Test Report No.	ECO/LAB/SW/0341/1039/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0341	Name of Location	Jhikaria Nalla before Joining Karo River
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1039/12/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	38.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	36.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.4	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	20.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.16	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	9.50	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.07	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.05	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-003			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	23/12/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Jhinkaria Nallah)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	23/12/2024			
Period of Analysis	23/12/2024 To 28/12/2024			
Date of Reporting	28/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.18	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.008	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

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Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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(Formerly known as Ecomen Laboratories Private Limited)

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001040F
		Test Report No.	ECO/LAB/SW/0341/1040/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0341	Name of Location	Panpash Nallah
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1040/12/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As IS-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	38.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	44.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	6.2	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	34.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.18	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	7.65	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.05	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

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2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-004	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Work Order No #	EMPL/WO/IDMA/10/2024	Dated 23/10/2024
Type of Sample#	Surface Water	
Customer's Description of Sample#	Surface Water	
Mode of Collection of Sample	By Hand	
Date of Sampling	23/12/2024	
Visual Observation	N/A	
Packing, Markings, Seal#	Plastic Bottle. (Loc. Panposhi Nallah)	
Quantity#	01 Ltr.	
Date of Receipt of Sample	23/12/2024	
Period of Analysis	23/12/2024 To 28/12/2024	
Date of Reporting	28/12/2024	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.24	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual Chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.001	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001041F
		Test Report No.	ECO/LAB/SW/0341/1041/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Surface Water		
Sample Registration No.	0341	Name of Location	Karo River Intake
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1041/12/2024

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	26.5	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	40.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	3.9	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	24.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	5.80	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APIIA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APIIA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APIIA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-005	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Work Order No.#	EMPL/VO/IDMA/10/2024	Dated 23/10/2024
Type of Sample#	Surface Water	
Customer's Description of Sample#	Surface Water	
Mode of Collection of Sample	By Hand	
Date of Sampling	23/12/2024	
Visual Observation	N/A	
Packing, Markings, Seal#	Plastic Bottle. (Loc. Karo River Intake)	
Quantity#	01 Ltr.	
Date of Receipt of Sample	23/12/2024	
Period of Analysis	23/12/2024 To 28/12/2024	
Date of Reporting	28/12/2024	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing : (Water)	-	-	-
1	pH	-	7.33	APHA 4500H+B 24th Edition, 2023
2	Cyanide as CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.003	APHA 3120 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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2.3.2 Effluent Waste Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400001036F
		Test Report No.	ECO/LAB/WW/0341/1036/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Waste Water		
Sample Registration No.	0341	Name of Location	Oil Catch Pit Water Bottom Garbage
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1036/12/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E) Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.92	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	43.5	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	32.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.4	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.22	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	5.70	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.19	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

-----End of Report-----

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-008			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Waste Water			
Customer's Description of Sample#	Waste Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	23/12/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water Bottom Garage)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	23/12/2024			
Period of Analysis	23/12/2024 To 28/12/2024			
Date of Reporting	28/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	0.13	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.05	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.014	CPCB Guide Manual Water & waste water Analysis

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

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(Formerly known as Ecomen Laboratories Private Limited)
Second Floor Hall, House No. B-1/8, Sector-H, Allganj, Lucknow - 226 024
Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512400001037F
		Test Report No.	ECO/LAB/WW/0341/1037/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Waste Water		
Sample Registration No.	0341	Name of Location	Oil Catch pit water G-Area
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1037/12/2024

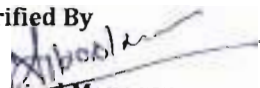
Sl No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E)
						Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.58	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	24.5	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	36.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.7	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.21	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	6.40	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.19	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ -F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-007		Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha			
Work Order No.#	EMPL/NO/IDMA/10/2024	Dated	23/10/2024	
Type of Sample#	Waste Water			
Customer's Description of Sample#	Waste Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	23/12/2024			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water G-Area)			
Quantity#	01 Ltr.			
Date of Receipt of Sample	23/12/2024			
Period of Analysis	23/12/2024 To 29/12/2024			
Date of Reporting	29/12/2024			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	<0.1	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN ⁻	mg/L	<0.01	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.009	CPCB Guide Manual:Water & waste water Analysis

Represents details provided by the customer.

End of Report



Authorised signatory
Kartar Singh
Tech. Mgr.
Idma Laboratories Ltd.
Panchkula

Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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2.3.3 Drinking Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001034F
		Test Report No.	ECO/LAB/DW/0341/1034/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Drinking Water		
Sample Registration No.	0341	Name of Location	Mount Club Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1034/12/2024

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	5.94	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.09	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.08	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	0.05	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note-

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-001			Page No. 1/1	
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha				
Type of Sample#	Drinking Water				
Customer's Description of Sample#	Drinking Water				
Quantity#	01 Ltr.				
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc.Mount Club Tap Water)				
Mode of Collection of Sample	By Hand				
Work Order No.#	EMPL/WO/IDMA/10/2024			Dated	23/10/2024
Date of Receipt of Sample	23/12/2024				
Period of Analysis	23/12/2024 To 28/12/2024				
Visual Observation	N/A				
Date of Reporting	28/12/2024				
Testing Protocol	IS: 10500:2012				

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Residual chlorine	mg/L	<0.1	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	0.002	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Opinion :

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512400001035F
		Test Report No.	ECO/LAB/DW/0341/1035/12/2024
		Issue Date of Test Report	28.12.2024
Type of Sample	Drinking Water		
Sample Registration No.	0341	Name of Location	Karo Guest House Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	21.12.2024	Time of Sample Collection	-
Date of Sample Receipt	23.12.2024	Time of Sample Receipt	10:15 AM
Start Date of Analysis	23.12.2024	End Date of Analysis	28.12.2024
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 51%	Sample ID Code	ECO/LAB/1035/12/2024

SL No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.98	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.08	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.07	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ -F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	231224N-E-002	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, Contract Cell, P.O. Bolani, Distt. Keonjhar, Odisha-758037 Odisha	
Type of Sample#	Drinking Water	
Customer's Description of Sample#	Drinking Water	
Quantity#	01 Ltr.	
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc. Karo Guest House Tap Water)	
Mode of Collection of Sample	By Hand	
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated 23/10/2024
Date of Receipt of Sample	23/12/2024	
Period of Analysis	23/12/2024 To 28/12/2024	
Visual Observation	N/A	
Date of Reporting	28/12/2024	
Testing Protocol	IS 10500:2012	

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Cyanide as CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
2	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
3	Total Residual chlorine	mg/L	0.12	-	-	APHA 4500Cl B 24th Edition, 2023
4	Total Iron	mg/L	<0.0005	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Opinion :

Represents details provided by the customer.

End of Report



Authorised signatory



Idma Laboratories Limited

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2.4 Surface Flow Rate (Nallah/Stream):

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/SWF/10

Test Report Issue date: 05.01.2025

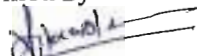
SURFACE FLOW RATE MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **Flow Meter**
3. Sampling Location : **Karo River Limtur Villg, Jhikaria Nallah , Panposh Nallah**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Location Name	Station Code	Result in (m/sec)
Karo River Limtur Village	SWFM1	0.56
Jhikaria nallah	SWFM2	0.30
Panposh Nallah	SWFM3	0.35

----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager



2.5 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, and wind speed and wind direction are given in **Table No. 2.5.2**. During the month of 'December, 2024' the temperature varied from 7.7°C to 33.5°C & Relative Humidity varied from 30.3% to 98.6%. The maximum wind speed recorded during the month was 13 m/s and the overall average wind speed is calculated to be 2.09m/s, 36.16% of the time the wind remained calm (<0.5 m/s). The predominant wind direction as observed to be from North (N) direction during the month. The total rainfall observed during the month was 1.2 & 2 out of 31 were rainy days. Max. And Min. Value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for December, 2024 are given below.

Table No. 2.5.2: Results of Site Specific Meteorological Data

Parameters		December, 2024
Temperature (°C)	Maximum	33.5
	Minimum	7.7
	Average	20.4
Relative Humidity (%)	Maximum	98.6
	Minimum	30.3
	Average	75.1
Wind Speed(m/s)	Maximum	13
	Average	2.09
Wind Direction (%)	N	23.25
	NNE	1.88
	NE	2.42
	ENE	5.11
	E	5.37
	ESE	4.57
	SE	3.75
	SSE	1.74
	S	7.52
	SSW	11.42
	SW	17.88
	WSW	6.3
	W	2.28
	WNW	2.96
	NW	2.55
	NNW	0.94
	CALM	36.16
Rainfall(mm)	Monthly Total	31
	No. of rainy days	1.2

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AWS/09

Test Report Issue date: 05.01.2025

METEROLOGICAL MONITORING REPORT FOR DECEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist- Keonjhar , Odisha**
2. Monitoring Instruments : **Automatic Weather Station (AWS)**
3. Sampling Location : **DAV Public School**

Date	Temperature (°C)		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.12.2024	24.2	17.9	98.5	64.2	4.25	0	1
02.12.2024	25.6	19.2	98.5	59.8	4.25	0	0
03.12.2024	28.7	19.1	98.5	52	3.75	0	0
04.12.2024	32.3	17	98.5	37.9	5.50	0	0
05.12.2024	31	14.9	98.4	32.7	7.75	0	0
06.12.2024	30.7	15.8	98.4	39.2	9.00	0	0
07.12.2024	28.3	13.5	98.4	42.4	8.00	0	0
08.12.2024	27.4	14.9	98.5	53.7	3.75	0	0
09.12.2024	28.4	17.9	98.6	63.3	9.50	0	0
10.12.2024	27.6	15.1	98.5	42.6	6.75	0	0
11.12.2024	26.8	11.9	98.3	46.8	8.50	0	0
12.12.2024	28.4	10.7	98.2	34.1	10.50	0	0.2
13.12.2024	27.2	9.9	98.2	39	6.75	0	0
14.12.2024	26.7	9.1	98.1	37.4	7.25	0	0
15.12.2024	25.5	7.9	98.1	37.9	6.75	0	0
16.12.2024	25.2	7.7	98	34.9	8.50	0	0
17.12.2024	29	8.6	98	43	4.75	0	0
18.12.2024	27.3	16.7	85	55.7	3.50	0	0
19.12.2024	28.3	16.3	84.7	40.9	6.75	0	0
20.12.2024	29.4	14	89.2	35.3	7.25	0	0
21.12.2024	30.6	13.6	89.8	39	5.25	0	0
22.12.2024	32	14.2	89.1	35.4	4.50	0	0
23.12.2024	32.5	14.3	88.7	32.1	4.75	0	0
24.12.2024	33.5	13.5	87.5	30.3	3.75	0	0
25.12.2024	33.4	13.1	85.9	31.6	8.25	0	0
26.12.2024	32.7	14.5	85.9	35.5	6.00	0	0
27.12.2024	29.6	15.4	98.3	43.8	5.75	0	0
28.12.2024	29.7	15	98.4	48.6	8.75	0	0
29.12.2024	29.9	17.6	98.4	51.2	13.00	0	0
30.12.2024	29.4	15.5	98.4	46.6	8.00	0	0
31.12.2024	28	14.2	98.4	46.4	9.75	0	0

----End of Report----

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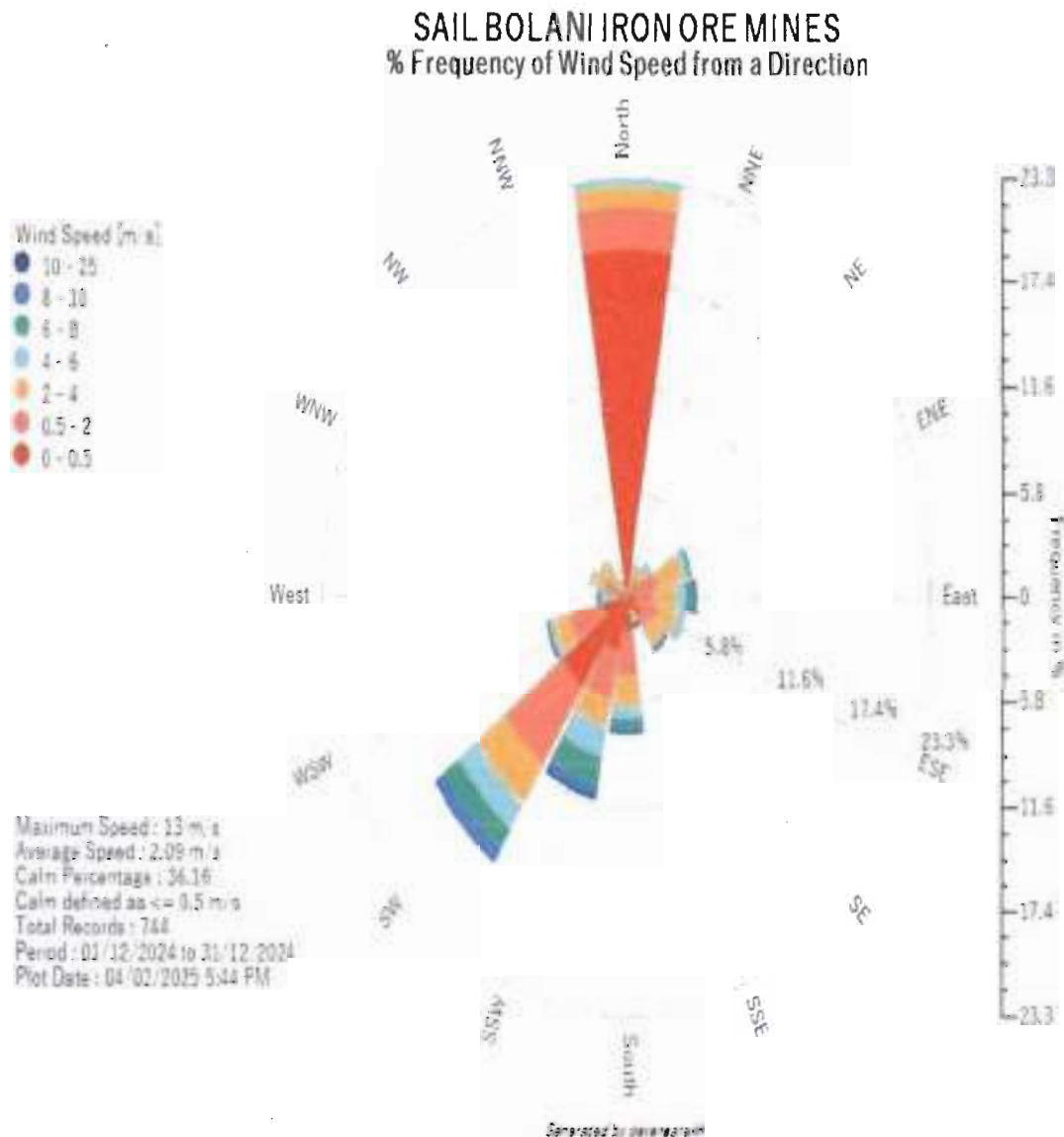
Technical Manager

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Quality Manager



Figure No.2: Wind Rose (24 hrly) During the Month of December' 2024





SAIL BOLANI
ORE MINES

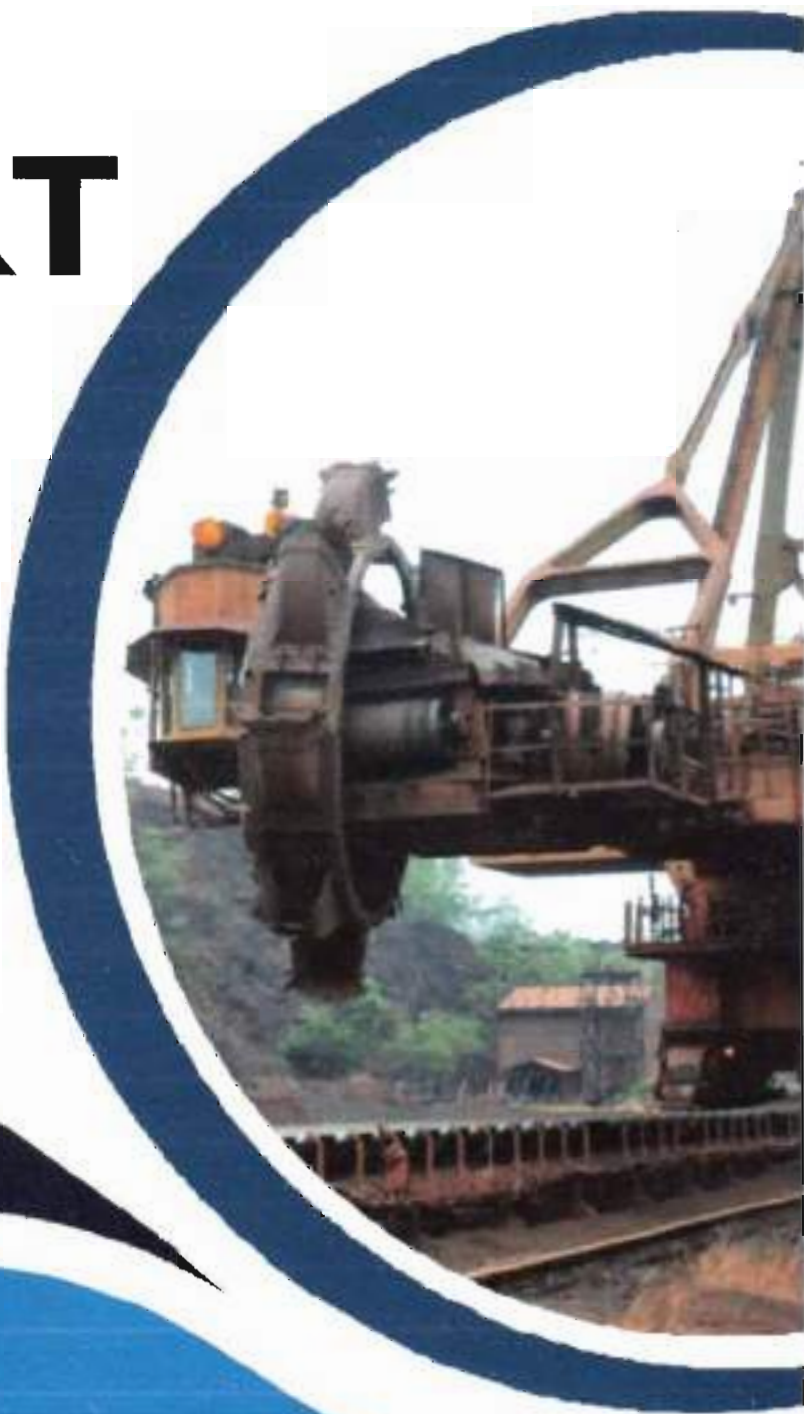
ENVIRONMENTAL
MONITORING

REPORT

JANUARY 2025

Presented By

**Ecomen Mining
Pvt.Ltd**



1.0 PREAMBLE

Steel Authority of India Limited (*hereinafter termed as SAIL*), is a central public sector undertaking under the ownership of Ministry of Steel, Govt. of India has engaged M/s Ecomen Mining Pvt. Ltd., Lucknow, U.P. for carrying out various **Environmental Monitoring and Analysis Work** in its Bolani Ores Mines -RSP located in the district of Keonjhar.

M/s Ecomen Mining Pvt. Ltd. has obtained MoEF & CC Recognition, NABL Accreditation and SPCB, Odisha empanelment for its laboratory division and also a NABET Accredited consultant to carry out EIA/EMP Report for various sectors like Mining, Mineral Beneficiation, Coal Washery, Thermal Power Plant, Metallurgical Industry and Infrastructure & Building Projects etc.

Work Order issued by Bolani Ores Mines-RSP-SAIL vide No-CC/REV/284/2023-24 dated.11.01.2024 for Environmental Monitoring & Analysis Work includes monitoring & analysis of Air Environment, Water Environment, Land Environment such as Ambient Air Quality, Work Zone Air Quality, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. This report presents the Environmental monitoring data collected from the core and buffer zone of Bolani Ores Mines in respect of following Environmental attributes during '**January-2025**' in the given frequency. Further, in compliance of condition no 6 (vi) of the EC Grant order vide J/11015/418/2008-IA.II(M) dated. 21.01.2012 and condition no 7 A(iii) of EC Grant order vide J/11015/396/2008-IA.II(M) dated. 21.01.2012 the analysis of air quality monitoring data is done in this report with the objective to see the effectiveness of the mitigative measures already implemented.

Scope of the Work

The scope of work as per the work order for FY-2024-25 is as follows:

Table No. 1.1: Scope of Work

Sl. No.	Particulates	Frequency of monitoring	No. of Stations
1.	Sampling & Analyses for Ambient Air Quality(AAQ) for 5 Parameters i.e. PM 10, PM 2.5, SO ₂ ,NO _x & CO	Daily	04
2.	Sampling & Analyses for Ambient Air Quality (AAQ) for 2 Parameters i.e. PM 10, PM 2.5	Daily	02
3.	Sampling & Analyses of Fugitive dust/Emission (SPM & RSPM)	Daily	10
4.	Sampling & Analyses of Surface/ effluent/ drinking water Quality for 21 parameter	Monthly	08
5.	Sampling and Analyses of ground water quality for 21 parameters	Quarterly	03
6.	Sampling and Analyses of Soil Samples for specified 9 parameters	Yearly	06
7.	Monitoring of weather/meteorological Parameters and continuous generation of data daily round the year by	Daily	01

	establishing online station round the clock throughout the Year		
8.	Smoke Density Monitoring of Vehicular Exhaust	Annually	09
9.	Ground water level Monitoring	Quarterly	03
10.	Nallah/River Flow rate Monitoring	Monthly	03

2.0 DETAILS OF MONITORING/SAMPLING STATIONS:

To carry out the Environmental Data Generation program, ECOMEN in due consultation with SAIL has identified different locations to collect the samples for Air & Water Environment in and around the mining lease area. The details of stations identified are as follows. The details of locations identified for monitoring different environmental parameters are given in the subsequent sections.

2.1 Ambient Air Quality (A)

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. Out of six (06) locations, monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) as (NO₂) and Carbon Monoxide (CO) at (4) Location and monitoring of Particulate Matter (PM₁₀) and Particulate Matter (PM_{2.5}) was carried out at the rest two (2) Locations as per the guidelines stipulated by Central Pollution Control Board. The locations are as given below.

Table No. 2.1: Details of AAQ Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
Ambient Air Quality (AAQ) for 5 Parameters i.e. PM ₁₀ , PM _{2.5} , SO ₂ ,NO _x & CO						
1	Bolani Village Community Center	6.90	Daily	A1	22°5'34.13"N	85°19'33.43"E
2	DAV Public School	6.90		A2	22°7'7.37"N	85°20'16.61"E
3	Main Gate	5.10		A3	22°6'18.18"N	85°19'47.27"E
4	Bolani Mines Office complex	5.10		A4	22°6'23.84"N	85°19'45.40"E
Ambient Air Quality (AAQ) for 2 Parameters i.e. PM ₁₀ , PM _{2.5}						
5	Limtur Village	6.90		A5	22°7'35.14"N	85°21'10.46"E
6	Karo Guest House	6.90		A6	22°05'36.38"N	85°20'32.38"E

2.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring (F)

To assess the level of fugitive dust due to mining and allied activities, ten (10) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out on Daily Basis. The locations are as given below.

Table No. 2.2: Details of Fugitive Emission Monitoring Stations

Sl. No.	Station Details	ML	Frequency	Station Code	GPS Coordinates	
					Latitude	Longitude
1	Panposh	5.10	Daily	F1	22°6'41.46"N	85°19'41.60"E
2	D Area	5.10		F2	22°07'19.78"N	85°20'5.70"E
3	F Area	5.10		F3	22°05'45.19"N	85°18'21.95"E
4	G Area	5.10		F4	22°06'3.88"N	85°18'8.22"E
5	Lump Loading Point (near 600TPH)	6.90		F5	22°06'18.79"N	85°19'54.78"E
6	Fines Loading Plant	6.90		F6	22°05'51.01"N	85°19'45.79"E
7	Dump Fines handling route	6.90		F7	22°5'39.31"N	85°19'26.29"E
8	SSP	5.10		F8	22°06'13.80"N	85°19'12.52"E
9	Dump Fines Handling Site	5.10		F9	22°06'09.94"N	85°19'30.61"E
10	Mn Quarry	6.90		F10	22°07'23.56"N	85°21'8.86"E

2.3 Surface/Effluent/Drinking Water Quality:

In order to assess the quality of surface/effluent/drinking water, Eight (8) locations were identified in and around the ML area. Out of eight (8) locations, surface water was taken from four (4) locations, drinking water was taken from two (2) locations and effluent water was taken from two (2) locations. One grab sample was collected from each location in the month and was analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.3: Details of Surface/Effluent/Drinking Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Surface Water Quality				
Panposh Nallah	Monthly Once	SWQ-1	22°6′31.68″N	85°19′34.41″E
Karo Near Lease Boundary		SWQ-2	22°7′26.27″ N	85°21′52.95″E

Karo River Intake		SWQ-3	22°5.13.02' N	85°19'57.88''E
Jhikaria nallah before joining Karo		SWQ-4	22°5'22.50'' N	85°19'10.05''E
Drinking Water Quality				
Mount Club Tap Water	Monthly Once	DW-1	22°6'56.24'' N	85°19'58.21''E
Karo Guest House Tap Water		DW-2	22°5'36.68'' N	85°20'32.09''E
Effluent Waste Water				
Oil Catch Pit Water Bottom Garage	Monthly Once	EW-1	22°6'27.11'' N	85°19'37.62''E
Oil Catch pit water G-Area		EW-2	22°6'1.83''N	85°18'24.16''E

2.4 Ground Water Quality (GWQ)

In order to assess the quality of ground water, three (3) locations were identified in and around the mining lease area. One grab sample is collected from each location quarterly and analyzed for 21 parameters as stipulated in the scope of work. The details of the locations are as follows:

Table No. 2.4: Details of Ground Water Quality Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
Ground Water Quality				
Bolani Village-Well water	Quarterly	GWQ-1	22° 05' 27.20"N	85° 19'27.13"E
Bolani Gouda Basti-Well water		GWQ-2	22° 05'40.97"N	85° 20'2.45"E
Balagoda Village-Well water		GWQ-3	22° 05'57.02"N	85° 20'27.41"E

2.5 Weather/Meteorology

An Automatic Weather Monitoring Station (AWS) is installed at DAV Public School (22°7'7.85''N; 85°20'16.83''E) to collect the meteorological data on daily basis continuously. The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

Table No. 2.5: Details of Meteorological Monitoring Stations

Station Details	Frequency	Station Code	GPS Coordinates	
			Latitude	Longitude
DAV Public School	Daily Basis	M	22°7'7.85''N	85°20'16.83''E

Figure No.1: Location of Monitoring Station with ML Boundary



3.0 RESULTS AND DISCUSSION

3.1 Ambient Air Quality Monitoring

The Summarized results of AAQ for the month of January-2025 are given in the Table below

Table No. 3.1 (a): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	PM ₁₀			PM _{2.5}		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community center	A1	71.7	60.1	65.7	27.8	20.0	24.0
2.	Dav Public School	A2	67.0	55.5	62.3	26.5	19.3	23.0
3.	Main Gate	A3	75.5	65.3	71.0	30.9	23.0	27.4
4.	Bolani Mines Office Complex	A4	73.8	62.0	68.2	29.4	22.6	26.4
5.	Limtur Village	A5	58.30	50.20	53.35	18.70	12.30	15.39
6.	Karo Guest House	A6	63.80	55.30	59.70	21.70	15.30	18.40
CPCB Std.			100 µg/m ³			60 µg/m ³		

Table No. 3.1(b): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	SO ₂			NO _x		
			Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	21.9	14.0	17.7	19.8	13.0	16.3
2.	Dav Public School	A2	23.8	16.3	20.1	21.6	15.1	18.4
3.	Main Gate	A3	23.7	15.1	19.6	20.7	14.2	17.7
4.	Bolani Mines Office Complex	A4	25.0	17.2	21.3	22.6	16.0	19.5
CPCB Std.			80 µg/m ³			80 µg/m ³		

BDL of SO₂ ≤ 4 µg/m³, BDL of NO_x ≤ 9 µg/m³ (NO_x as NO₂)

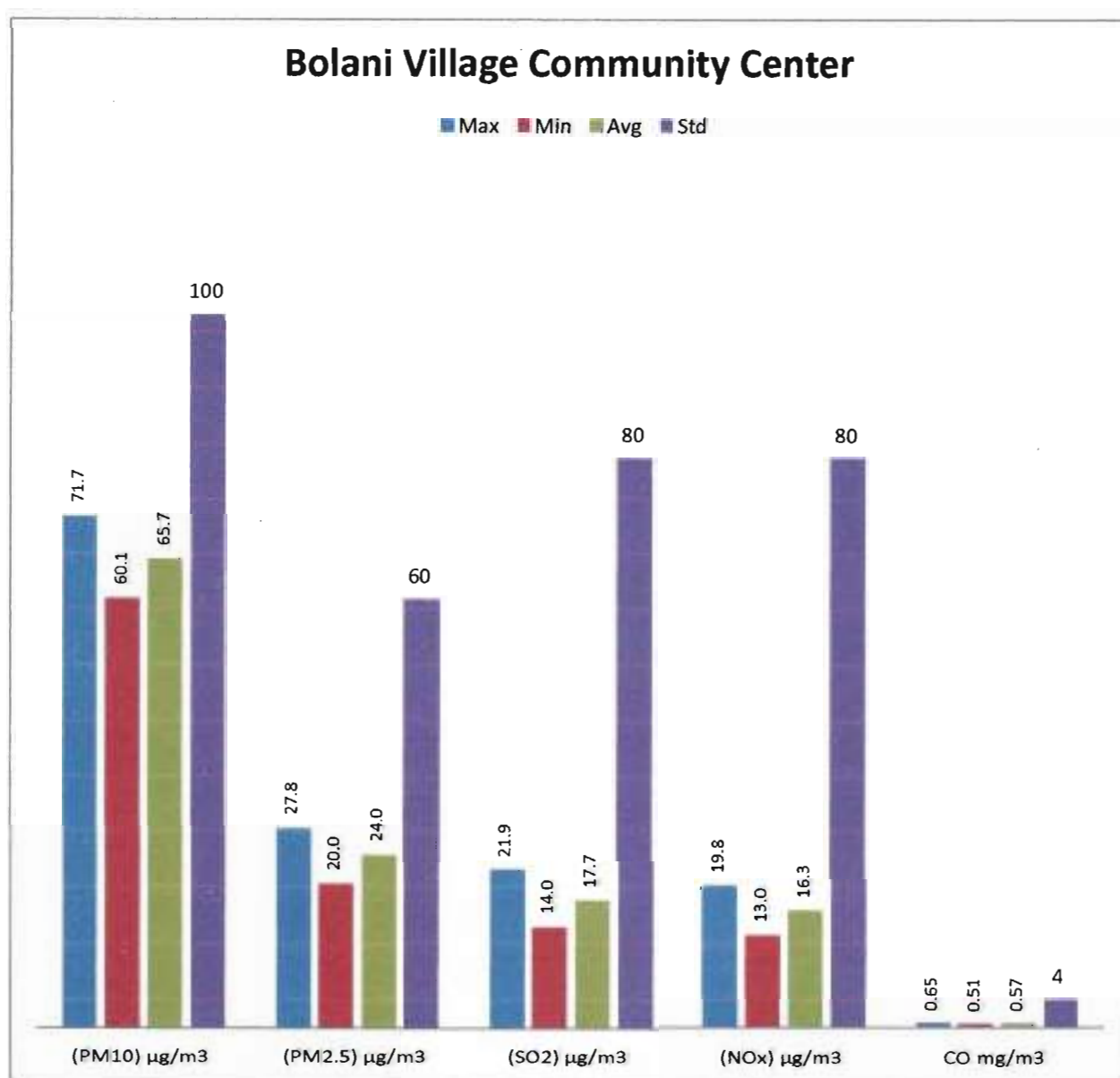
Table No. 3.1(c): Summarized Results of Ambient Air Quality

Sl. No.	Location Name	Station Code	CO		
			Max.	Min.	Avg.
1.	Bolani Village Community Center	A1	0.65	0.51	0.57
2.	Dav Public School	A2	0.68	0.54	0.61
3.	Main Gate	A3	0.67	0.52	0.60
4.	Bolani Mines Office Complex	A4	0.70	0.55	0.64
CPCB Std.			4 mg/m ³		

Note: BDL value for CO-0.11 mg/m³

3.1.1 Bolani village Community Center (A1):

The pollution level in Bolani village Community Center for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed 71.7 µg/m³ whereas minimum concentration was observed 60.1 µg/m³ during the month. PM_{2.5} concentration ranges between 20.0 µg/m³ to 27.8 µg/m³, SO₂ concentration ranges between 14.0 µg/m³ to 21.9 µg/m³, NO_x as (NO₂) concentration ranges between 13.0 µg/m³ to 19.8 µg/m³ and CO concentration ranges between 0.51 mg/m³ to 0.65 mg/m³ was observed during the month





ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Allganj, Lucknow - 226 024

Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/73

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

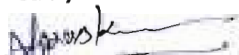
1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines , At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-1: Bolani village Community Center
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.01.2025	71.4	24.2	21.9	16.9	0.62
2.	02.01.2025	64.6	20.5	16.3	18.9	0.57
3.	03.01.2025	64.7	26.0	16.1	14.9	0.52
4.	04.01.2025	70.5	20.5	21.6	17.0	0.52
5.	05.01.2025	65.2	25.9	15.6	17.8	0.55
6.	06.01.2025	66.0	21.0	21.0	15.4	0.56
7.	07.01.2025	67.6	20.6	19.1	19.6	0.63
8.	08.01.2025	62.0	26.6	18.5	15.9	0.62
9.	09.01.2025	63.0	26.5	18.0	17.1	0.64
10.	10.01.2025	67.0	24.2	14.1	13.4	0.60
11.	11.01.2025	63.1	25.4	20.1	13.5	0.56
12.	12.01.2025	60.1	24.6	14.4	18.0	0.56
13.	13.01.2025	67.9	24.9	15.6	19.3	0.64
14.	14.01.2025	63.2	20.0	20.8	16.5	0.64
15.	15.01.2025	60.5	25.7	17.0	18.8	0.53
16.	16.01.2025	70.5	27.8	19.2	19.0	0.65
17.	17.01.2025	71.7	24.5	21.1	13.9	0.56
18.	18.01.2025	68.5	23.8	21.9	13.8	0.53
19.	19.01.2025	68.3	25.0	15.1	19.5	0.53
20.	20.01.2025	66.6	26.8	15.3	16.0	0.56
21.	21.01.2025	60.4	23.8	15.4	15.1	0.61
22.	22.01.2025	71.7	26.4	18.0	15.7	0.54
23.	23.01.2025	67.6	24.3	14.8	13.7	0.51
24.	24.01.2025	63.2	20.4	16.0	13.0	0.51
25.	25.01.2025	66.0	26.5	21.0	14.5	0.53
26.	26.01.2025	69.7	20.4	14.0	14.5	0.58
27.	27.01.2025	64.8	25.3	19.2	13.7	0.51
28.	28.01.2025	60.1	25.4	17.2	19.8	0.52
29.	29.01.2025	64.2	22.9	17.6	18.4	0.53
30.	30.01.2025	67.2	22.4	17.6	15.6	0.57
31.	31.01.2025	60.1	22.5	14.3	16.8	0.58
Average		65.7	24.0	17.7	16.3	0.57

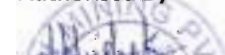
Note- No_x is Given as No₂

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Verified By

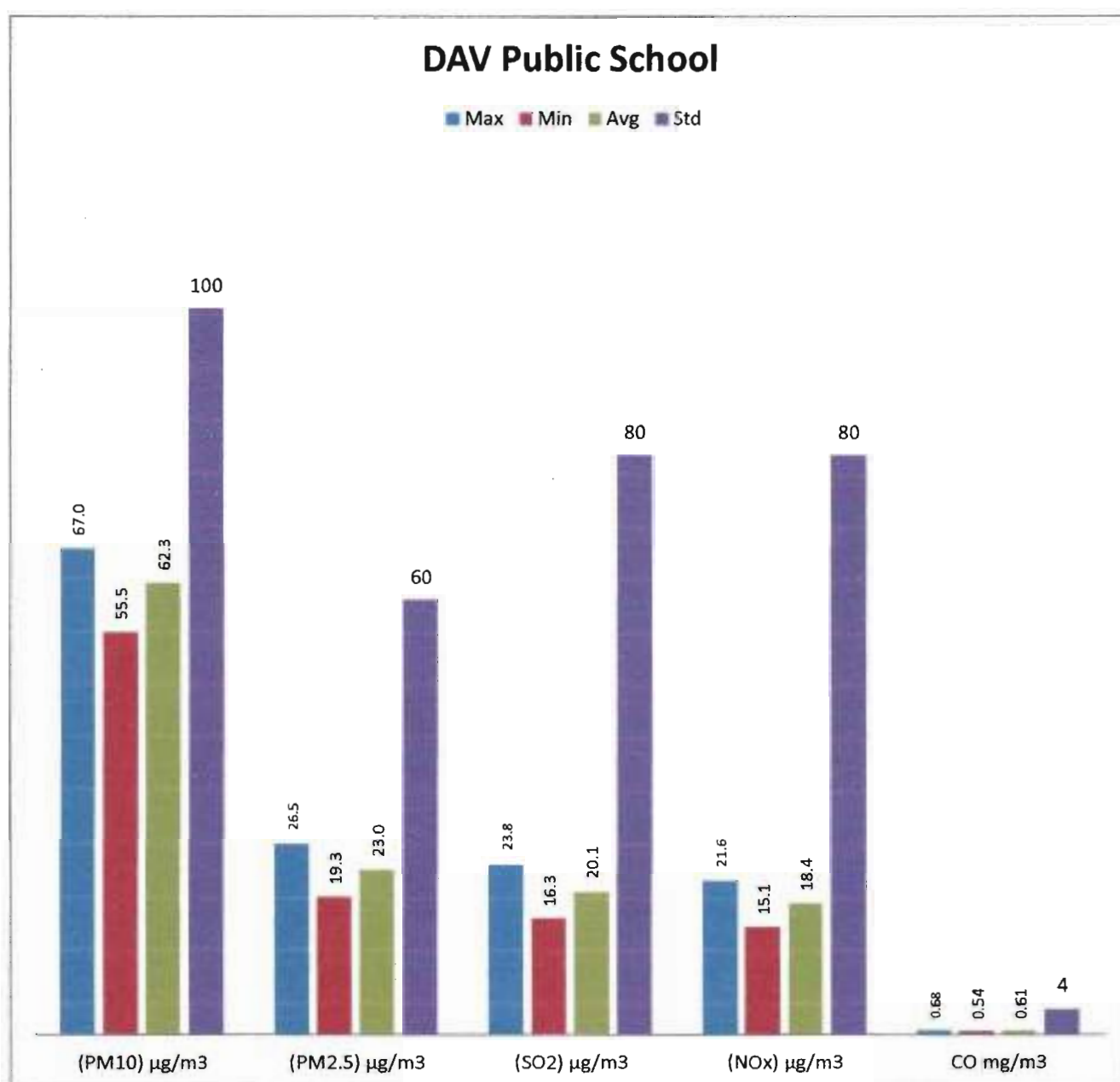

Technical Manager

Authorized By


Quality Manager

3.1.2 DAV Public School (A2):

The pollution level in DAV Public School for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed 67.0 µg/m³ whereas minimum concentration was observed 55.5 µg/m³ during the month. PM_{2.5} concentration ranges between 19.3 µg/m³ to 26.5 µg/m³, SO₂ concentration ranges between 16.3 µg/m³ to 23.8 µg/m³, NO_x as (NO₂) concentration ranges between 15.1 µg/m³ to 21.6 µg/m³ and CO concentration ranges between 0.54 mg/m³ to 0.68 mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

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Test Report No: ECO/BOM/AAQ/74

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-2: DAV Public School
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.01.2025	62.6	21.2	17.1	19.3	0.59
2.	02.01.2025	55.8	20.7	16.4	17.5	0.54
3.	03.01.2025	64.3	20.0	17.1	21.4	0.57
4.	04.01.2025	67.0	25.1	23.3	19.3	0.58
5.	05.01.2025	55.5	22.9	19.4	17.3	0.57
6.	06.01.2025	65.5	19.6	22.6	21.0	0.68
7.	07.01.2025	66.7	25.6	17.4	16.1	0.63
8.	08.01.2025	59.7	26.3	23.6	19.0	0.64
9.	09.01.2025	65.4	19.4	23.7	18.7	0.55
10.	10.01.2025	58.2	20.6	20.3	16.3	0.66
11.	11.01.2025	66.3	19.8	17.3	15.2	0.59
12.	12.01.2025	58.3	26.0	21.3	21.6	0.59
13.	13.01.2025	64.9	21.5	23.6	17.9	0.67
14.	14.01.2025	60.3	24.0	16.3	15.5	0.60
15.	15.01.2025	66.6	26.5	18.3	15.8	0.63
16.	16.01.2025	57.5	24.7	18.4	16.9	0.54
17.	17.01.2025	66.2	24.2	18.1	20.8	0.60
18.	18.01.2025	58.9	22.4	23.8	20.4	0.67
19.	19.01.2025	64.2	24.1	21.4	20.2	0.58
20.	20.01.2025	65.0	21.0	22.8	18.5	0.60
21.	21.01.2025	66.3	26.0	21.9	15.1	0.64
22.	22.01.2025	64.6	22.3	16.6	18.2	0.65
23.	23.01.2025	63.1	25.0	18.5	17.5	0.67
24.	24.01.2025	57.4	25.0	22.3	17.2	0.64
25.	25.01.2025	58.8	24.9	18.5	16.2	0.67
26.	26.01.2025	65.3	20.1	20.0	19.5	0.65
27.	27.01.2025	57.5	26.0	18.2	21.2	0.61
28.	28.01.2025	59.3	21.6	19.6	18.8	0.56
29.	29.01.2025	64.0	19.3	23.3	19.0	0.65
30.	30.01.2025	63.6	22.7	21.7	21.5	0.61
31.	31.01.2025	62.1	24.1	20.6	18.8	0.59
Average		62.3	23.0	20.1	18.4	0.61

Note- No_x is Given as No₂

----End of Report----

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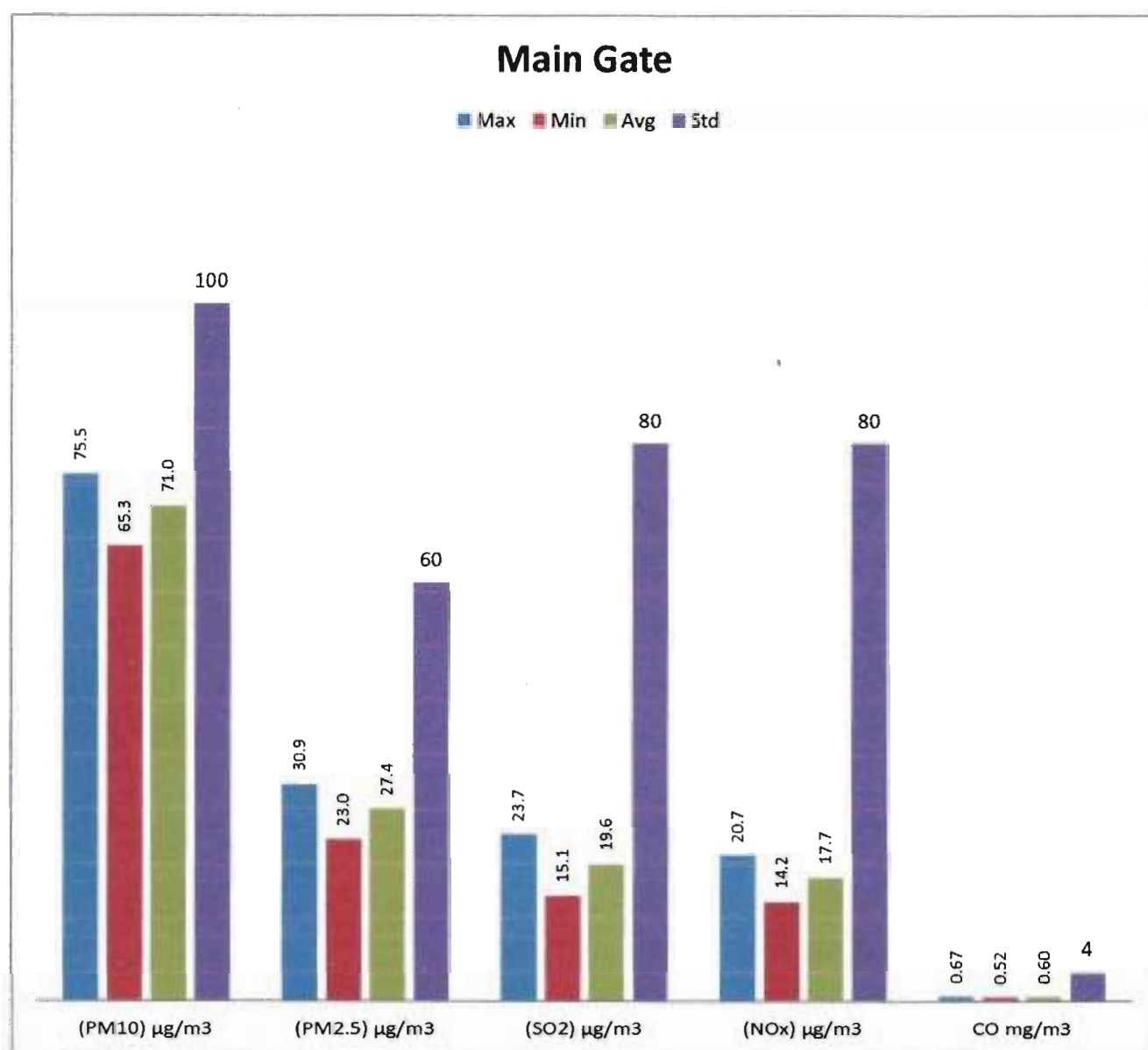
Technical Manager

Authorized By

Quality Manager

3.1.3 Main Gate (A3):

The pollution level in Main Gate for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **75.5** µg/m³ whereas minimum concentration was observed **65.3** µg/m³ during the month. PM_{2.5} concentration ranges between **23.0** µg/m³ to **30.9** µg/m³, SO₂ concentration ranges between **15.1** µg/m³ to **23.7** µg/m³, NO_x as (NO₂) concentration ranges between **14.2** µg/m³ to **20.7** µg/m³ and CO concentration ranges between **0.52** mg/m³ to **0.67** mg/m³ was observed during the month





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/75

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-3: Main Gate
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³	Sulphur Di-oxide (SO ₂) µg/m ³	Nitrogen Oxides (NO _x) µg/m ³	Carbon mono-oxides as CO mg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.01.2025	72.5	30.6	23.4	18.4	0.54
2.	02.01.2025	70.8	23.1	20.5	20.1	0.65
3.	03.01.2025	66.2	27.7	22.4	15.7	0.67
4.	04.01.2025	67.9	24.7	15.2	14.3	0.59
5.	05.01.2025	66.1	28.6	18.1	19.1	0.53
6.	06.01.2025	73.4	28.6	18.3	17.5	0.55
7.	07.01.2025	72.6	24.0	19.7	20.5	0.55
8.	08.01.2025	72.4	24.8	15.9	17.4	0.64
9.	09.01.2025	73.1	26.2	22.6	19.5	0.63
10.	10.01.2025	68.1	25.2	20.0	17.0	0.58
11.	11.01.2025	65.3	28.9	18.8	18.9	0.65
12.	12.01.2025	75.0	28.4	21.2	16.9	0.66
13.	13.01.2025	70.7	24.5	23.5	14.4	0.53
14.	14.01.2025	67.0	27.5	21.9	18.0	0.64
15.	15.01.2025	74.4	23.0	20.8	16.1	0.55
16.	16.01.2025	74.6	30.1	22.2	18.6	0.65
17.	17.01.2025	67.4	30.2	18.3	17.4	0.54
18.	18.01.2025	73.6	23.8	15.7	19.1	0.58
19.	19.01.2025	69.1	29.2	18.1	14.6	0.67
20.	20.01.2025	74.2	29.5	15.1	16.6	0.62
21.	21.01.2025	75.2	29.8	21.6	17.6	0.66
22.	22.01.2025	69.0	25.0	23.7	19.1	0.63
23.	23.01.2025	70.7	27.0	20.8	19.6	0.67
24.	24.01.2025	67.0	27.6	15.5	19.7	0.60
25.	25.01.2025	67.6	30.7	16.4	20.1	0.55
26.	26.01.2025	73.3	26.5	15.3	14.3	0.53
27.	27.01.2025	71.2	28.6	21.4	16.7	0.59
28.	28.01.2025	75.5	29.2	20.1	20.7	0.58
29.	29.01.2025	74.8	30.0	20.5	14.2	0.53
30.	30.01.2025	72.4	30.9	22.5	18.2	0.52
31.	31.01.2025	70.8	25.5	17.2	17.8	0.58
Average		71.0	27.4	19.6	17.7	0.60

Note- No_x is Given as No₂

----End of Report----

Verified By


Technician Manager

Authorized By


Quality Manager



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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/76

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-4: Bolani Mines Office Complex
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m³	Particulate Matter (PM _{2.5}) µg/m³	Sulphur Di-oxide (SO ₂) µg/m³	Nitrogen Oxides (NO _x) µg/m³	Carbon mono-oxides as CO mg/m³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)	IS:5182(Part-2)	IS:5182(Part-6)	IS:5182(Part-10)
Limits of Detection		10-1000	10-1000	5-200	5-200	0.1-100
Limit as per National Ambient Air Quality Standards		100	60	80	80	4
S. No.	Sampling Date	Results				
1.	01.01.2025	62.0	27.3	17.7	17.6	0.67
2.	02.01.2025	73.1	25.9	24.7	19.9	0.67
3.	03.01.2025	69.1	28.6	17.7	19.9	0.70
4.	04.01.2025	72.7	24.4	17.2	20.1	0.59
5.	05.01.2025	64.0	29.1	24.8	19.7	0.69
6.	06.01.2025	62.8	29.1	22.0	16.7	0.65
7.	07.01.2025	68.1	29.1	17.2	16.5	0.70
8.	08.01.2025	70.8	22.6	24.0	19.2	0.66
9.	09.01.2025	73.8	23.6	22.9	18.4	0.58
10.	10.01.2025	66.1	25.6	19.5	22.6	0.65
11.	11.01.2025	62.6	26.7	23.8	16.0	0.57
12.	12.01.2025	67.8	23.3	20.7	19.8	0.58
13.	13.01.2025	68.8	25.7	22.9	22.0	0.58
14.	14.01.2025	73.8	24.7	22.1	17.7	0.68
15.	15.01.2025	67.4	27.6	23.8	19.1	0.55
16.	16.01.2025	70.5	25.2	20.0	20.3	0.65
17.	17.01.2025	66.2	27.0	24.8	22.1	0.64
18.	18.01.2025	67.4	29.4	19.1	18.6	0.55
19.	19.01.2025	63.3	26.5	21.2	21.0	0.61
20.	20.01.2025	67.5	28.3	25.0	17.9	0.69
21.	21.01.2025	70.7	27.2	21.9	21.6	0.65
22.	22.01.2025	69.3	25.0	22.2	20.2	0.61
23.	23.01.2025	68.4	29.4	18.5	19.7	0.64
24.	24.01.2025	73.4	23.0	23.5	22.2	0.67
25.	25.01.2025	67.7	26.3	20.4	22.3	0.70
26.	26.01.2025	67.0	26.0	20.1	20.9	0.61
27.	27.01.2025	63.1	24.8	24.5	21.2	0.64
28.	28.01.2025	63.1	27.0	21.9	18.1	0.61
29.	29.01.2025	73.0	25.6	19.7	17.2	0.70
30.	30.01.2025	70.0	25.4	18.8	18.5	0.70
31.	31.01.2025	72.2	28.7	17.3	17.9	0.63
Average		68.2	26.4	21.3	19.5	0.64

Note- No_x is Given as No₂

-----End of Report-----

Verified By

Technical Manager

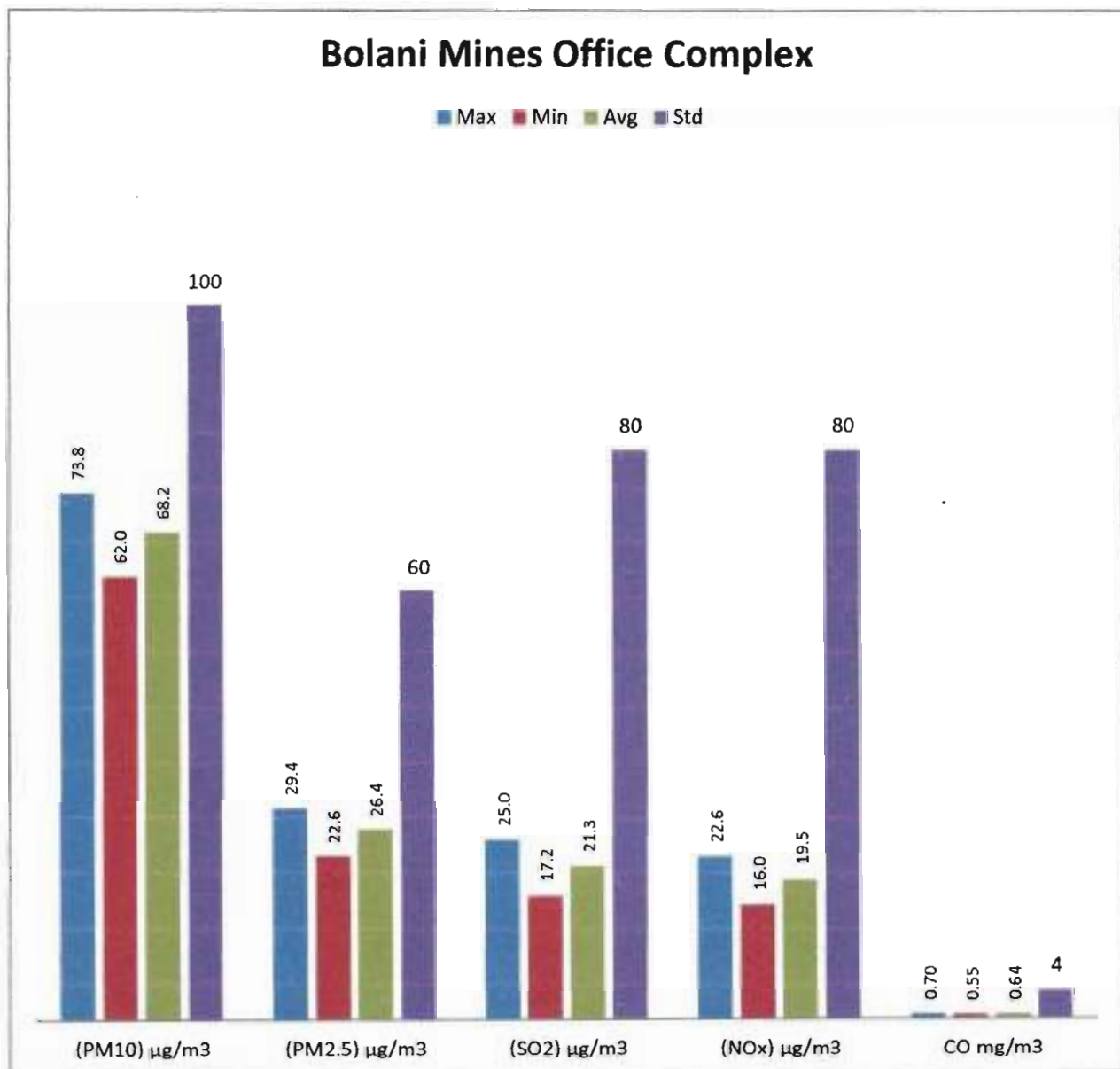
Authorized By

Quality Manager



3.1.4 Bolani Mines Office Complex (A4):

The pollution level in Bolani Mines Office Complex for the parameters PM₁₀, PM_{2.5}, SO₂, NO_x & CO is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed 73.8 µg/m³ whereas minimum concentration was observed 62.0 µg/m³ during the month. PM_{2.5} concentration ranges between 22.6 µg/m³ to 29.4 µg/m³, SO₂ concentration ranges between 17.2 µg/m³ to 25.0 µg/m³, NO_x as (NO₂) concentration ranges between 16.0 µg/m³ to 22.6 µg/m³ and CO concentration ranges between 0.55 mg/m³ to 0.70 mg/m³ was observed during the month





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Test Report No: ECO/BOM/AAQ/77

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
3. Sampling Location : AAQMS-5: Limtur Village
4. Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.01.2025	50.5	17.0
2.	02.01.2025	51.7	14.0
3.	03.01.2025	51.2	14.1
4.	04.01.2025	56.0	12.7
5.	05.01.2025	52.4	14.8
6.	06.01.2025	54.7	17.4
7.	07.01.2025	50.7	16.9
8.	08.01.2025	50.9	16.7
9.	09.01.2025	55.2	13.0
10.	10.01.2025	51.8	15.2
11.	11.01.2025	56.5	17.4
12.	12.01.2025	54.0	17.8
13.	13.01.2025	54.4	15.2
14.	14.01.2025	52.5	12.6
15.	15.01.2025	57.8	18.2
16.	16.01.2025	51.2	12.9
17.	17.01.2025	54.6	17.4
18.	18.01.2025	58.3	12.3
19.	19.01.2025	52.6	16.3
20.	20.01.2025	53.8	18.7
21.	21.01.2025	51.6	14.5
22.	22.01.2025	53.2	13.2
23.	23.01.2025	51.1	18.5
24.	24.01.2025	53.2	16.2
25.	25.01.2025	50.9	15.3
26.	26.01.2025	50.2	16.4
27.	27.01.2025	51.1	15.4
28.	28.01.2025	55.3	13.6
29.	29.01.2025	52.5	12.8
30.	30.01.2025	57.1	15.7
31.	31.01.2025	56.8	15.0
Average		53.4	15.4

----End of Report----

Verified By

Technical Manager

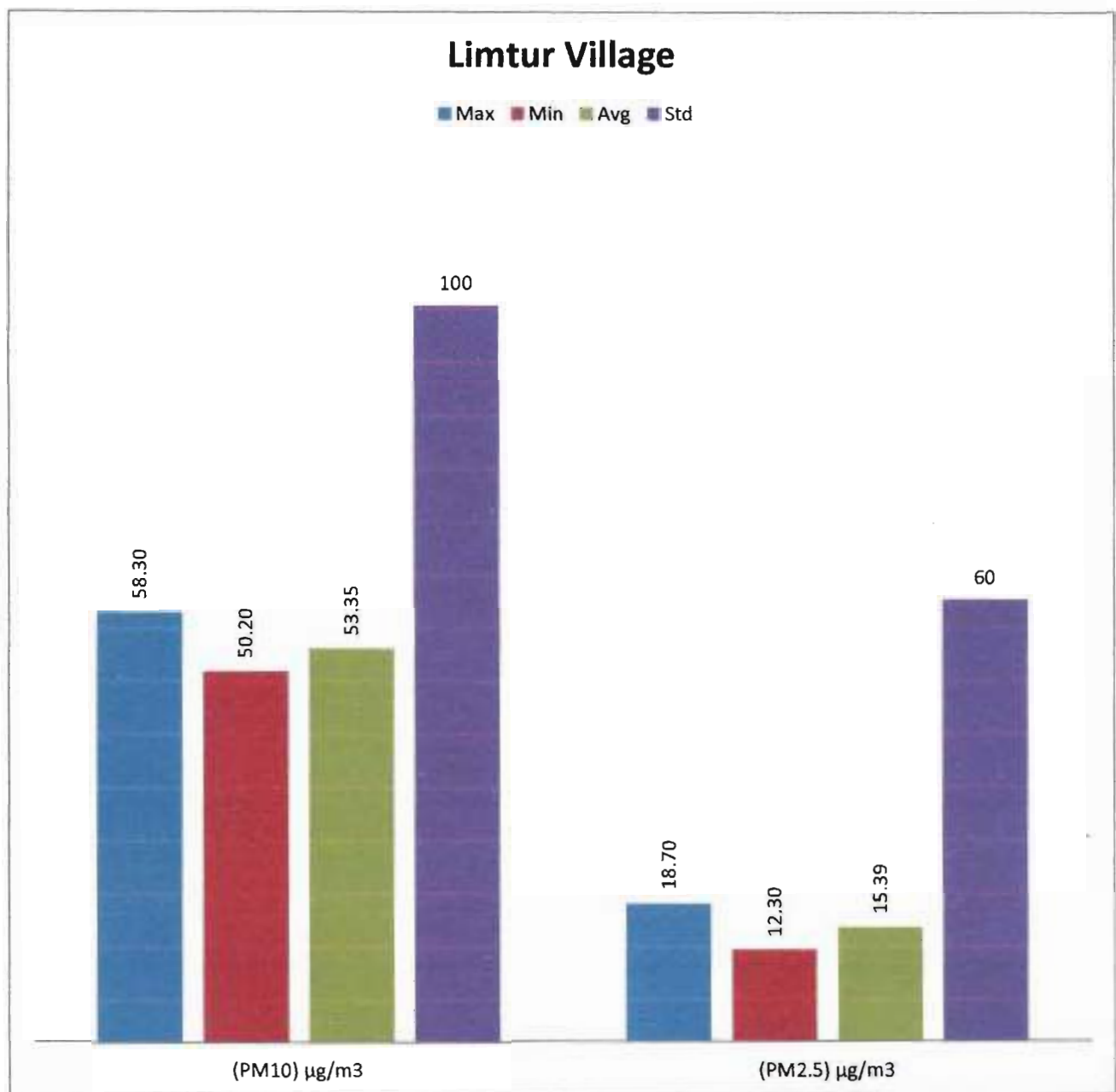
Authorized By

Quality Manager



3.1.5 Limtur Village (A5):

The pollution level in Limtur Village for the parameters PM_{10} and $PM_{2.5}$ is within the stipulated norms of CPCB. The maximum concentration of PM_{10} was observed $58.30 \mu\text{g}/\text{m}^3$ whereas minimum concentration was observed $50.20 \mu\text{g}/\text{m}^3$ and $PM_{2.5}$ concentration ranges between $12.30 \mu\text{g}/\text{m}^3$ to $18.70 \mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AAQ/78

Test Report Issue date: 05.02.2025

AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY 2025

- Name of Industry : Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha
- Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer (NDIR)
- Sampling Location : AAQMS-6: Karo Guest House
- Sample collected by : EMPL representative in presence of Client's representative.

Parameters		Particulate Matter (PM ₁₀) µg/m ³	Particulate Matter (PM _{2.5}) µg/m ³
PROTOCOL		IS:5182(Part-23)	IS:5182(Part-24)
Limits of Detection		10-1000	10-1000
Limit as per National Ambient Air Quality Standards		100	60
S. No.	Sampling Date	Result	
1.	01.01.2025	56.3	17.2
2.	02.01.2025	57.5	15.7
3.	03.01.2025	62.9	20.1
4.	04.01.2025	58.1	21.6
5.	05.01.2025	62.8	21.5
6.	06.01.2025	61.7	19.5
7.	07.01.2025	63.6	21.1
8.	08.01.2025	61.9	17.2
9.	09.01.2025	60.9	18.5
10.	10.01.2025	59.7	16.1
11.	11.01.2025	55.6	15.3
12.	12.01.2025	57.1	18.4
13.	13.01.2025	59.6	19.5
14.	14.01.2025	59.0	20.8
15.	15.01.2025	63.4	17.1
16.	16.01.2025	58.9	20.6
17.	17.01.2025	59.1	17.4
18.	18.01.2025	55.3	20.0
19.	19.01.2025	59.6	21.7
20.	20.01.2025	57.3	16.0
21.	21.01.2025	61.6	19.7
22.	22.01.2025	63.8	16.1
23.	23.01.2025	59.5	17.5
24.	24.01.2025	55.7	16.5
25.	25.01.2025	62.7	16.9
26.	26.01.2025	55.3	18.8
27.	27.01.2025	58.8	16.4
28.	28.01.2025	59.2	17.3
29.	29.01.2025	62.0	18.6
30.	30.01.2025	63.5	21.0
31.	31.01.2025	58.4	16.2
Average		59.7	18.4

----End of Report----

Verified By

Technical Manager

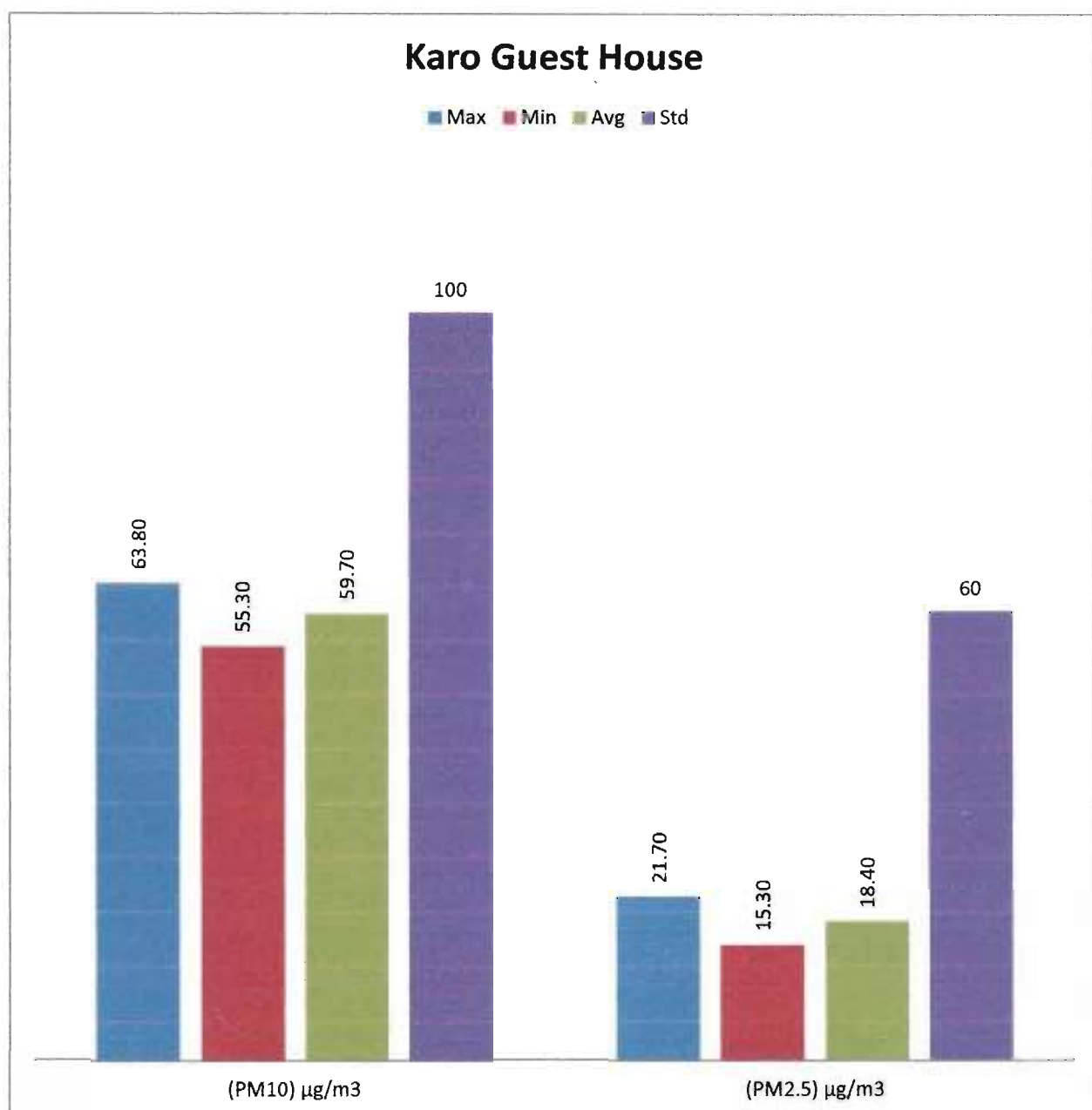
Authorized By

Quality Manager



3.1.6 Karo Guest House (A6):

The pollution level in Karo Guest House for the parameters PM₁₀ and PM_{2.5} is within the stipulated norms of CPCB. The maximum concentration of PM₁₀ was observed **63.80** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **55.30** $\mu\text{g}/\text{m}^3$ and PM_{2.5} concentration ranges between **15.30** $\mu\text{g}/\text{m}^3$ to **27.70** $\mu\text{g}/\text{m}^3$ during the month.



3.2 Work Zone Air Quality/Fugitive Dust Emission Monitoring:

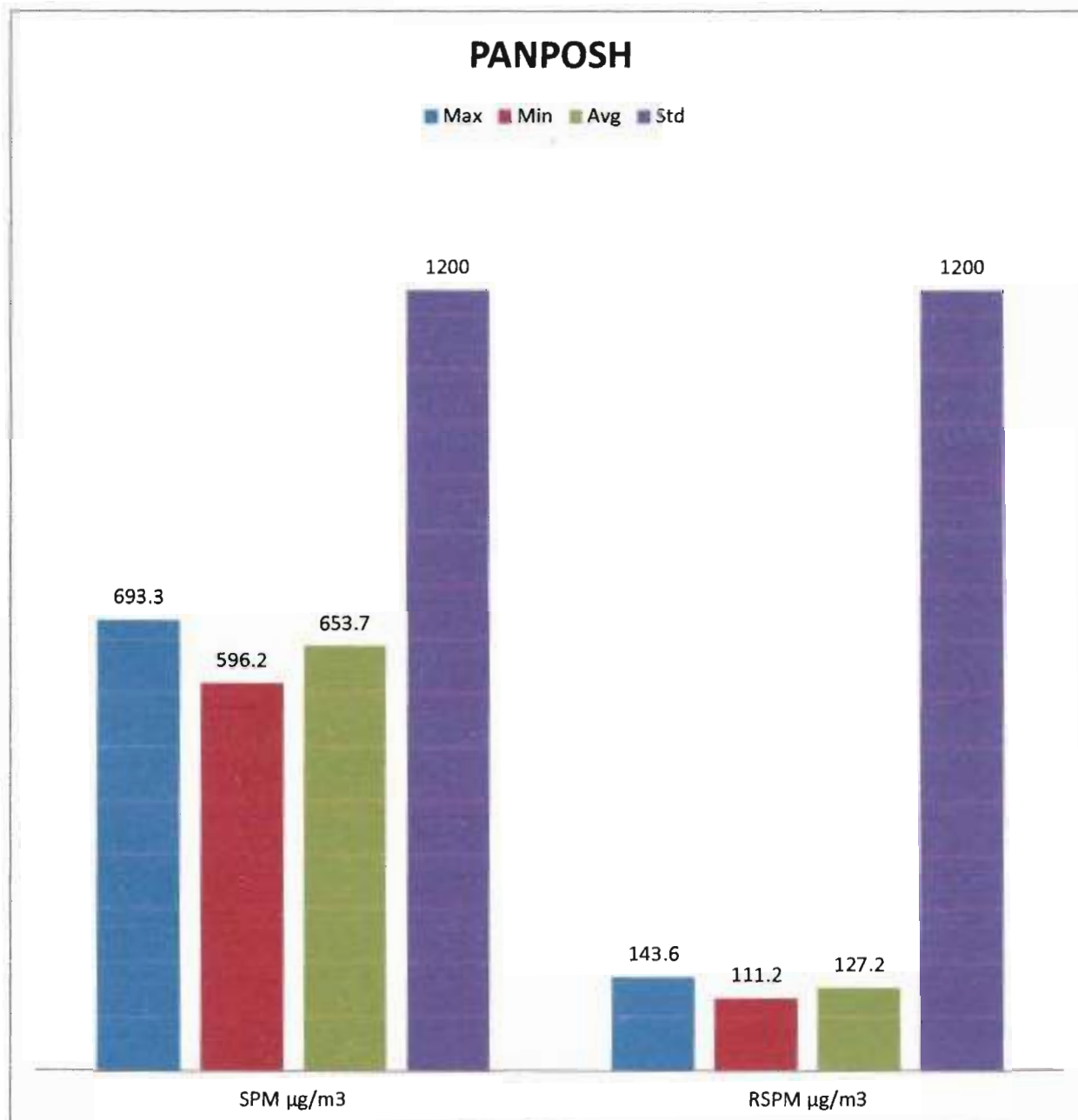
The Summarized results of Work Zone Air Quality/Fugitive Dust Emission for the month of January-2025 are given in the **Table below**

Table No. 3.2: Summarized Results of Work Zone Air Quality/Fugitive Dust Emission

Sl. No.	Location Name	Station Code	SPM $\mu\text{g}/\text{m}^3$			RSPM $\mu\text{g}/\text{m}^3$		
			Max.	Min.	Avg.	Max.	Min	Avg.
1.	Panposh	F1	693.3	596.2	653.7	143.6	111.2	127.2
2.	D Area	F2	685.9	597.2	639.0	139.9	109.5	123.2
3.	F Area	F3	692.4	600.6	649.4	141.6	111.9	126.0
4.	G Area	F4	679.8	596.3	628.7	133.4	109.9	121.9
5.	Lump Loading Point (near 600TPH)	F5	692.7	598.6	649.8	137.4	108.6	125.4
6.	Fines Loading Plant	F6	694.7	595.5	654.4	142.7	113.3	126.4
7.	Dump Fines handling route	F7	690.1	595.5	645.6	141.1	117.5	127.8
8.	SSP	F8	693.6	595.1	643.5	141.6	109.0	123.9
9.	Dump Fines Handling Site	F9	691.5	595.2	643.2	137.2	112.1	126.5
10.	Mn Quarry	F10	695.3	599.3	659.1	145.4	108.2	127.7
As Per CTO Std.			1200 $\mu\text{g}/\text{m}^3$					

3.2.1 Panposh (F1):

The pollution level in Panposh Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **693.3** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **596.2** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **111.2** $\mu\text{g}/\text{m}^3$ to **143.6** $\mu\text{g}/\text{m}^3$ during the month.





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/101

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Panposh**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Panposh	661.4	136.9
2.	02-01-2025	Panposh	664.8	121.9
3.	03-01-2025	Panposh	655.4	135.1
4.	04-01-2025	Panposh	660.9	119.2
5.	05-01-2025	Panposh	625.2	114.8
6.	06-01-2025	Panposh	623.1	125.3
7.	07-01-2025	Panposh	675.3	128.3
8.	08-01-2025	Panposh	645.7	117.2
9.	09-01-2025	Panposh	668.4	138.8
10.	10-01-2025	Panposh	692.8	139.4
11.	11-01-2025	Panposh	657.3	121.2
12.	12-01-2025	Panposh	683.3	128.7
13.	13-01-2025	Panposh	671.6	122.0
14.	14-01-2025	Panposh	606.9	111.2
15.	15-01-2025	Panposh	638.1	118.4
16.	16-01-2025	Panposh	657.7	125.4
17.	17-01-2025	Panposh	621.1	125.9
18.	18-01-2025	Panposh	621.5	127.6
19.	19-01-2025	Panposh	689.3	127.0
20.	20-01-2025	Panposh	686.2	143.6
21.	21-01-2025	Panposh	693.3	143.5
22.	22-01-2025	Panposh	596.2	122.6
23.	23-01-2025	Panposh	619.4	127.1
24.	24-01-2025	Panposh	680.9	138.2
25.	25-01-2025	Panposh	599.0	118.4
26.	26-01-2025	Panposh	649.4	128.9
27.	27-01-2025	Panposh	669.7	131.9
28.	28-01-2025	Panposh	680.6	125.2
29.	29-01-2025	Panposh	615.5	126.9
30.	30-01-2025	Panposh	671.1	127.4
31.	31-01-2025	Panposh	683.5	126.6
Average			653.7	127.2

----End of Report----

Verified By

Technical Manager

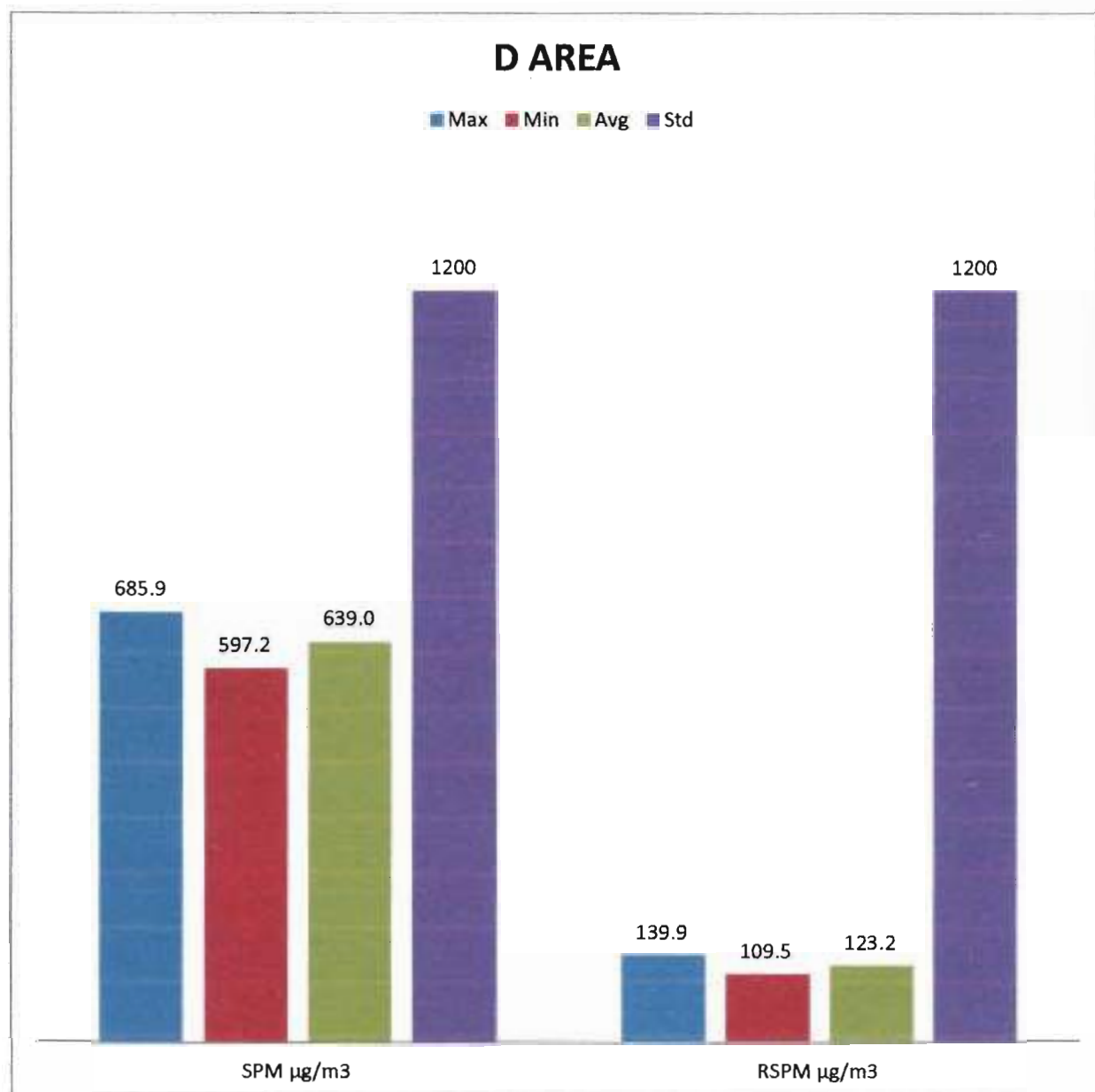
Authorized By

Quality Manager



3.2.2 D Area(F2)

The pollution level in D Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **685.9 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **597.2 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **109.5 $\mu\text{g}/\text{m}^3$** to **139.9 $\mu\text{g}/\text{m}^3$** during the month.



Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/102

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **D Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	D Area	685.9	130.1
2.	02-01-2025	D Area	679.4	126.5
3.	03-01-2025	D Area	681.2	131.9
4.	04-01-2025	D Area	607.2	113.7
5.	05-01-2025	D Area	606.1	124.8
6.	06-01-2025	D Area	597.2	122.6
7.	07-01-2025	D Area	630.2	118.3
8.	08-01-2025	D Area	641.6	128.4
9.	09-01-2025	D Area	667.8	135.9
10.	10-01-2025	D Area	643.7	120.8
11.	11-01-2025	D Area	606.5	111.5
12.	12-01-2025	D Area	665.9	122.3
13.	13-01-2025	D Area	613.4	117.7
14.	14-01-2025	D Area	633.8	128.7
15.	15-01-2025	D Area	667.5	139.9
16.	16-01-2025	D Area	652.3	125.8
17.	17-01-2025	D Area	597.2	109.5
18.	18-01-2025	D Area	661.9	120.4
19.	19-01-2025	D Area	681.1	131.0
20.	20-01-2025	D Area	616.5	115.9
21.	21-01-2025	D Area	632.9	128.9
22.	22-01-2025	D Area	644.6	126.5
23.	23-01-2025	D Area	597.3	110.4
24.	24-01-2025	D Area	611.9	117.0
25.	25-01-2025	D Area	673.4	131.5
26.	26-01-2025	D Area	652.8	123.9
27.	27-01-2025	D Area	616.7	112.0
28.	28-01-2025	D Area	655.6	122.4
29.	29-01-2025	D Area	674.4	128.1
30.	30-01-2025	D Area	611.2	119.8
31.	31-01-2025	D Area	602.1	122.0
Average			639.0	123.2

----End of Report----

Verified By

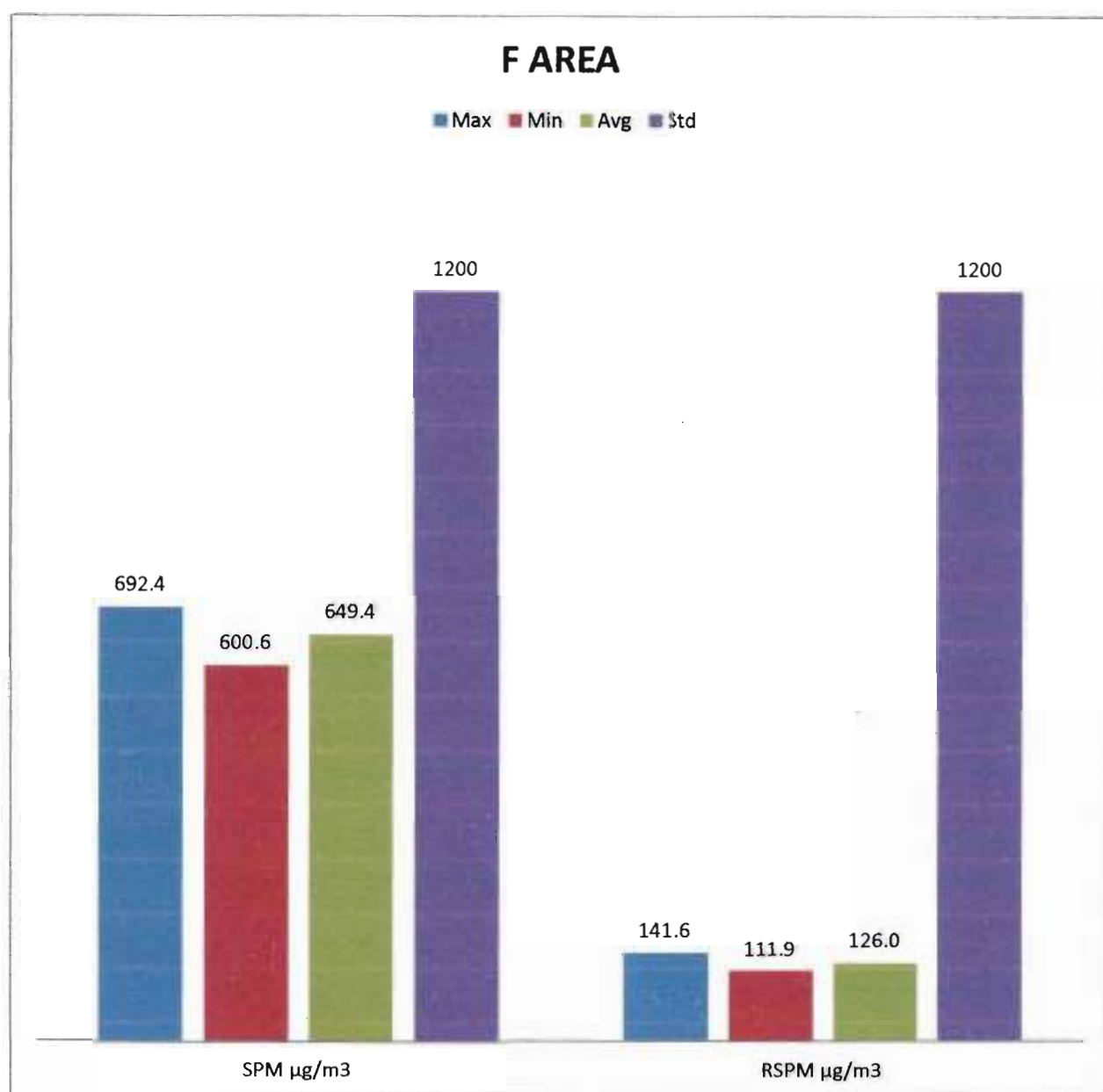

Technical Manager

Authorized By


Quality Manager

3.2.3 F Area(F3)

The pollution level in F Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **692.4** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **600.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **111.9** $\mu\text{g}/\text{m}^3$ to **141.6** $\mu\text{g}/\text{m}^3$ during the month





ECOMEN MINING PRIVATE LIMITED
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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/103

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **F Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	F Area	642.9	127.8
2.	02-01-2025	F Area	621.7	118.4
3.	03-01-2025	F Area	660.0	130.8
4.	04-01-2025	F Area	646.3	123.7
5.	05-01-2025	F Area	622.4	112.9
6.	06-01-2025	F Area	615.5	114.6
7.	07-01-2025	F Area	679.4	123.5
8.	08-01-2025	F Area	676.2	134.8
9.	09-01-2025	F Area	664.4	139.3
10.	10-01-2025	F Area	681.4	137.1
11.	11-01-2025	F Area	666.7	126.8
12.	12-01-2025	F Area	656.1	124.4
13.	13-01-2025	F Area	617.3	120.3
14.	14-01-2025	F Area	685.4	125.1
15.	15-01-2025	F Area	606.5	120.8
16.	16-01-2025	F Area	606.2	122.1
17.	17-01-2025	F Area	684.7	135.3
18.	18-01-2025	F Area	692.4	140.0
19.	19-01-2025	F Area	691.1	141.6
20.	20-01-2025	F Area	681.7	129.1
21.	21-01-2025	F Area	679.3	124.9
22.	22-01-2025	F Area	604.8	122.7
23.	23-01-2025	F Area	682.0	132.3
24.	24-01-2025	F Area	641.4	117.2
25.	25-01-2025	F Area	619.4	121.9
26.	26-01-2025	F Area	635.7	117.2
27.	27-01-2025	F Area	671.4	131.2
28.	28-01-2025	F Area	606.8	111.9
29.	29-01-2025	F Area	600.6	117.3
30.	30-01-2025	F Area	613.3	123.8
31.	31-01-2025	F Area	679.9	136.5
Average			649.5	126.0

----End of Report----

Verified By

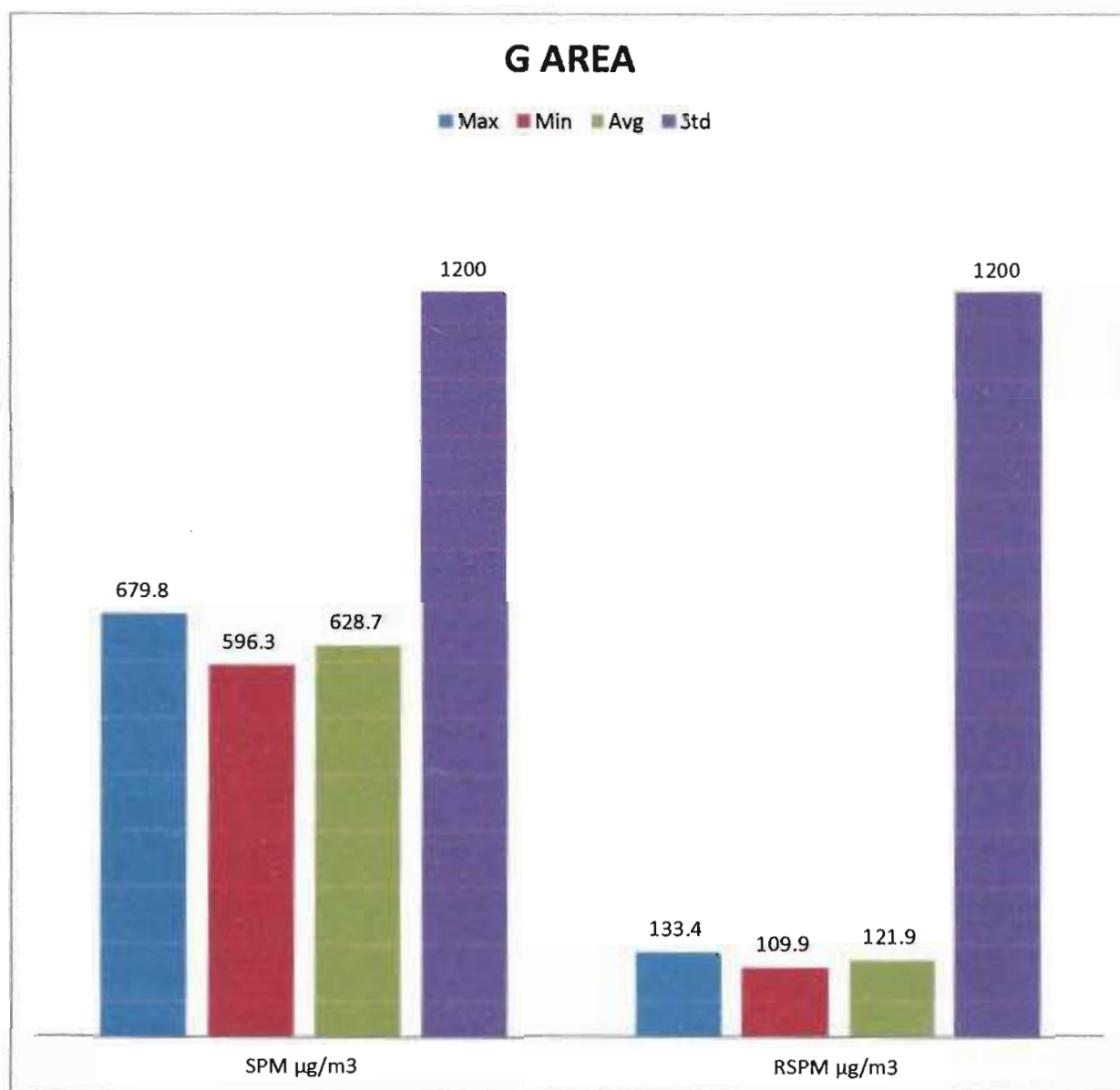
Technical Manager

Authorized By

Quality Manager

3.2.4 G Area(F4)

The pollution level in G Area Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **679.8 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **596.3 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **109.9 $\mu\text{g}/\text{m}^3$** to **133.4 $\mu\text{g}/\text{m}^3$** during the month





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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/104

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines, At/P.O: Bolani, Dist. Keonjhar, Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **G Area**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	G Area	666.7	122.4
2.	02-01-2025	G Area	666.9	131.3
3.	03-01-2025	G Area	678.4	133.4
4.	04-01-2025	G Area	678.2	124.6
5.	05-01-2025	G Area	596.3	123.5
6.	06-01-2025	G Area	614.9	114.5
7.	07-01-2025	G Area	661.0	124.6
8.	08-01-2025	G Area	614.8	121.1
9.	09-01-2025	G Area	643.3	130.0
10.	10-01-2025	G Area	598.9	118.7
11.	11-01-2025	G Area	623.1	125.3
12.	12-01-2025	G Area	608.3	121.7
13.	13-01-2025	G Area	616.6	122.1
14.	14-01-2025	G Area	601.8	113.2
15.	15-01-2025	G Area	619.2	126.1
16.	16-01-2025	G Area	610.9	118.6
17.	17-01-2025	G Area	606.3	111.8
18.	18-01-2025	G Area	612.0	119.2
19.	19-01-2025	G Area	603.6	109.9
20.	20-01-2025	G Area	666.9	130.5
21.	21-01-2025	G Area	616.2	123.6
22.	22-01-2025	G Area	601.6	121.1
23.	23-01-2025	G Area	612.6	124.9
24.	24-01-2025	G Area	653.0	120.8
25.	25-01-2025	G Area	610.7	119.3
26.	26-01-2025	G Area	624.4	117.8
27.	27-01-2025	G Area	607.0	114.0
28.	28-01-2025	G Area	598.6	115.2
29.	29-01-2025	G Area	647.4	122.5
30.	30-01-2025	G Area	679.8	128.9
31.	31-01-2025	G Area	651.6	126.9
Average			628.7	121.9

----End of Report----

Verified By

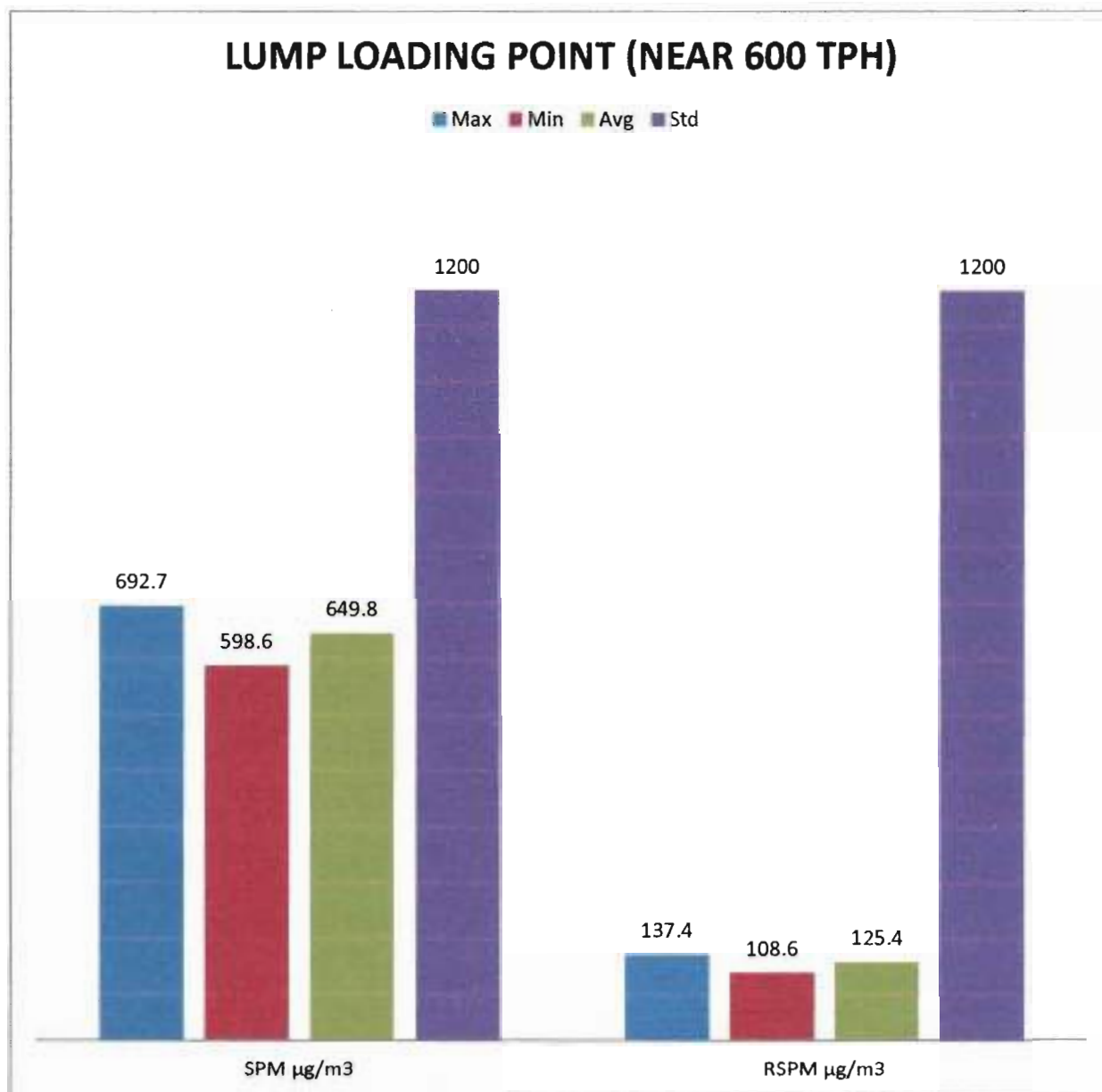

Technical Manager

Authorized By


Quality Manager


3.2.5 Lump Loading Point (Near 600 TPH) (F5)

The pollution level in Lump Loading Point (Near 600 TPH) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **692.7** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **598.6** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.6** $\mu\text{g}/\text{m}^3$ to **137.4** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/105

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Lump Loading Point (Near 600 TPH)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Lump Loading Point (Near 600 TPH)	682.0	128.8
2.	02-01-2025	Lump Loading Point (Near 600 TPH)	666.5	130.7
3.	03-01-2025	Lump Loading Point (Near 600 TPH)	621.8	129.3
4.	04-01-2025	Lump Loading Point (Near 600 TPH)	653.9	128.7
5.	05-01-2025	Lump Loading Point (Near 600 TPH)	649.2	131.6
6.	06-01-2025	Lump Loading Point (Near 600 TPH)	623.4	118.1
7.	07-01-2025	Lump Loading Point (Near 600 TPH)	673.6	133.6
8.	08-01-2025	Lump Loading Point (Near 600 TPH)	667.5	130.3
9.	09-01-2025	Lump Loading Point (Near 600 TPH)	638.9	118.9
10.	10-01-2025	Lump Loading Point (Near 600 TPH)	663.3	122.7
11.	11-01-2025	Lump Loading Point (Near 600 TPH)	675.8	127.9
12.	12-01-2025	Lump Loading Point (Near 600 TPH)	692.1	129.5
13.	13-01-2025	Lump Loading Point (Near 600 TPH)	622.4	114.0
14.	14-01-2025	Lump Loading Point (Near 600 TPH)	619.5	127.5
15.	15-01-2025	Lump Loading Point (Near 600 TPH)	692.7	133.4
16.	16-01-2025	Lump Loading Point (Near 600 TPH)	663.9	137.4
17.	17-01-2025	Lump Loading Point (Near 600 TPH)	688.4	130.1
18.	18-01-2025	Lump Loading Point (Near 600 TPH)	639.5	126.6
19.	19-01-2025	Lump Loading Point (Near 600 TPH)	618.3	114.8
20.	20-01-2025	Lump Loading Point (Near 600 TPH)	615.2	115.4
21.	21-01-2025	Lump Loading Point (Near 600 TPH)	598.6	108.6
22.	22-01-2025	Lump Loading Point (Near 600 TPH)	681.3	128.4
23.	23-01-2025	Lump Loading Point (Near 600 TPH)	626.5	123.6
24.	24-01-2025	Lump Loading Point (Near 600 TPH)	682.8	124.2
25.	25-01-2025	Lump Loading Point (Near 600 TPH)	650.3	121.7
26.	26-01-2025	Lump Loading Point (Near 600 TPH)	642.0	131.8
27.	27-01-2025	Lump Loading Point (Near 600 TPH)	602.7	124.4
28.	28-01-2025	Lump Loading Point (Near 600 TPH)	670.5	125.1
29.	29-01-2025	Lump Loading Point (Near 600 TPH)	632.7	126.8
30.	30-01-2025	Lump Loading Point (Near 600 TPH)	618.7	122.5
31.	31-01-2025	Lump Loading Point (Near 600 TPH)	670.1	122.1
Average			649.8	125.4

----End of Report----

Verified By

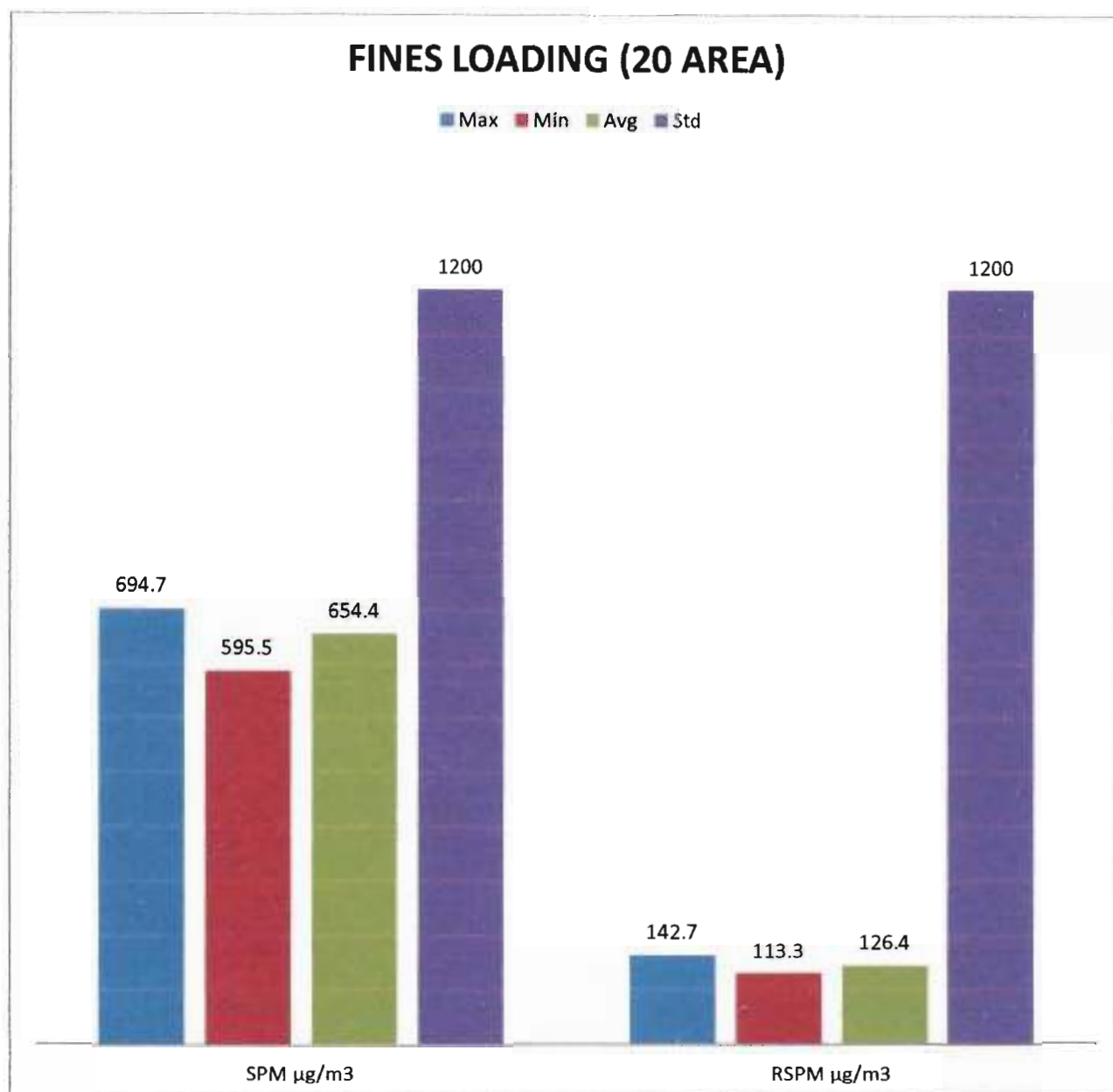
Technical Manager

Authorized By

Quality Manager

3.2.6 Fines Loading (20 area) (F6)

The pollution level in Fines Loading (20 area) for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **694.7 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **595.5 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **113.3 $\mu\text{g}/\text{m}^3$** to **142.7 $\mu\text{g}/\text{m}^3$** during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/106

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Loading (20 area)**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Fines Loading (20 area)	671.2	121.7
2.	02-01-2025	Fines Loading (20 area)	625.8	121.3
3.	03-01-2025	Fines Loading (20 area)	681.1	142.7
4.	04-01-2025	Fines Loading (20 area)	673.7	125.8
5.	05-01-2025	Fines Loading (20 area)	660.9	133.7
6.	06-01-2025	Fines Loading (20 area)	681.8	124.0
7.	07-01-2025	Fines Loading (20 area)	633.8	123.5
8.	08-01-2025	Fines Loading (20 area)	633.4	123.3
9.	09-01-2025	Fines Loading (20 area)	691.1	126.5
10.	10-01-2025	Fines Loading (20 area)	676.1	126.1
11.	11-01-2025	Fines Loading (20 area)	680.7	126.7
12.	12-01-2025	Fines Loading (20 area)	637.0	121.1
13.	13-01-2025	Fines Loading (20 area)	609.0	127.4
14.	14-01-2025	Fines Loading (20 area)	595.5	116.5
15.	15-01-2025	Fines Loading (20 area)	694.7	129.2
16.	16-01-2025	Fines Loading (20 area)	659.5	134.6
17.	17-01-2025	Fines Loading (20 area)	678.3	131.2
18.	18-01-2025	Fines Loading (20 area)	619.6	119.6
19.	19-01-2025	Fines Loading (20 area)	680.6	130.5
20.	20-01-2025	Fines Loading (20 area)	627.9	120.9
21.	21-01-2025	Fines Loading (20 area)	639.8	128.2
22.	22-01-2025	Fines Loading (20 area)	692.9	136.8
23.	23-01-2025	Fines Loading (20 area)	621.7	127.2
24.	24-01-2025	Fines Loading (20 area)	683.9	129.7
25.	25-01-2025	Fines Loading (20 area)	640.3	132.2
26.	26-01-2025	Fines Loading (20 area)	683.1	131.8
27.	27-01-2025	Fines Loading (20 area)	601.2	120.1
28.	28-01-2025	Fines Loading (20 area)	679.8	132.8
29.	29-01-2025	Fines Loading (20 area)	656.4	118.5
30.	30-01-2025	Fines Loading (20 area)	653.0	122.3
31.	31-01-2025	Fines Loading (20 area)	622.4	113.3
Average			654.4	126.4

---End of Report---

Verified By

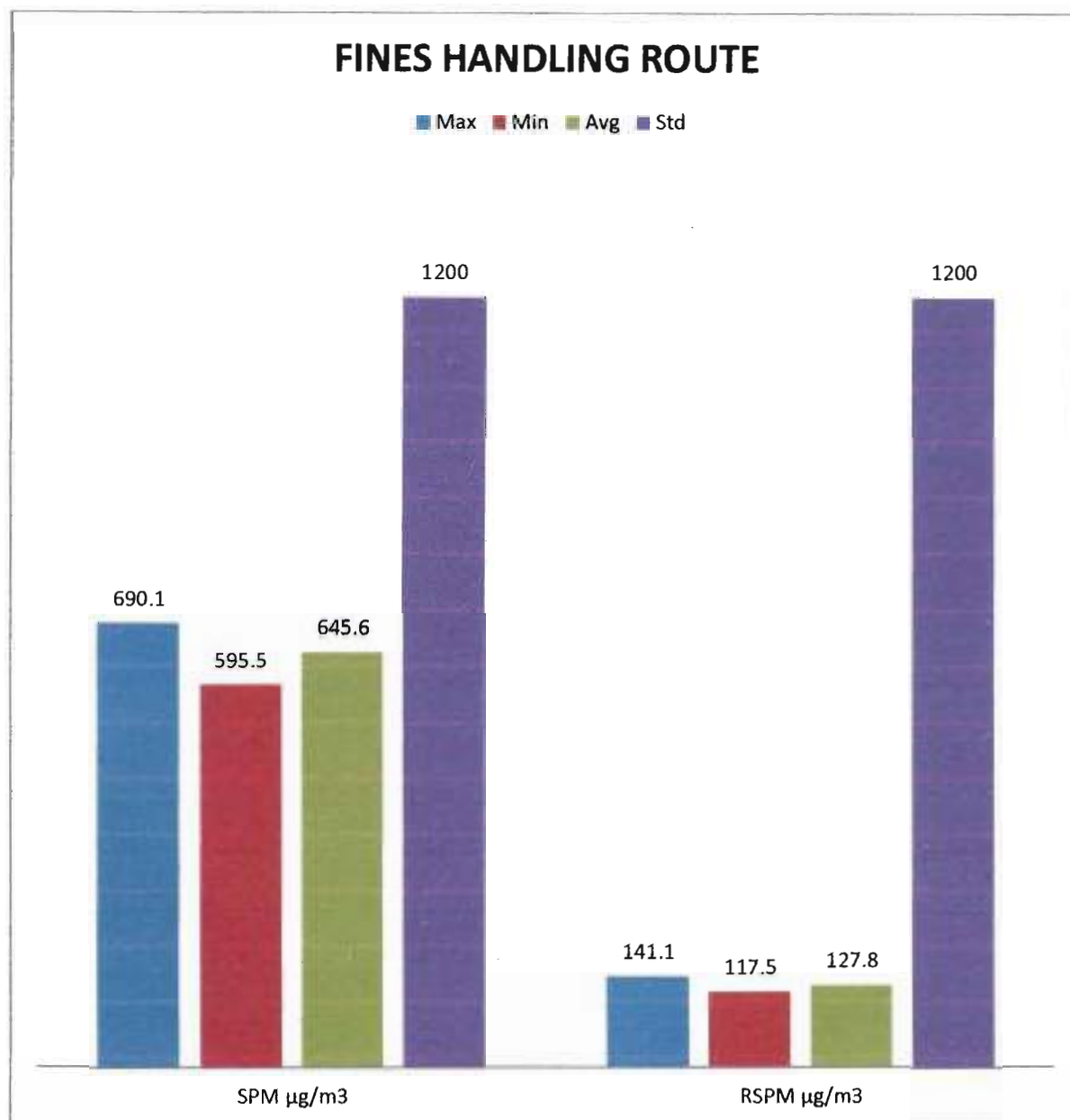

Technical Manager

Authorized By


Quality Manager


3.2.7 Fines Handling Route (F7)

The pollution level in Fines Handling Route for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **690.1 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **595.5 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **117.5 $\mu\text{g}/\text{m}^3$** to **141.1 $\mu\text{g}/\text{m}^3$** during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

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Test Report No: ECO/BOM/FUG/107

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Fines Handling Route**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Fines Handling Route	628.4	120.0
2.	02-01-2025	Fines Handling Route	612.1	126.1
3.	03-01-2025	Fines Handling Route	607.1	120.7
4.	04-01-2025	Fines Handling Route	650.1	117.5
5.	05-01-2025	Fines Handling Route	641.0	128.3
6.	06-01-2025	Fines Handling Route	595.5	119.5
7.	07-01-2025	Fines Handling Route	684.6	128.2
8.	08-01-2025	Fines Handling Route	620.5	125.5
9.	09-01-2025	Fines Handling Route	689.3	139.3
10.	10-01-2025	Fines Handling Route	611.4	126.1
11.	11-01-2025	Fines Handling Route	647.2	130.9
12.	12-01-2025	Fines Handling Route	677.0	136.1
13.	13-01-2025	Fines Handling Route	626.2	125.6
14.	14-01-2025	Fines Handling Route	620.0	120.7
15.	15-01-2025	Fines Handling Route	681.1	125.6
16.	16-01-2025	Fines Handling Route	653.9	136.8
17.	17-01-2025	Fines Handling Route	668.5	136.8
18.	18-01-2025	Fines Handling Route	608.1	125.4
19.	19-01-2025	Fines Handling Route	646.0	126.4
20.	20-01-2025	Fines Handling Route	601.8	117.7
21.	21-01-2025	Fines Handling Route	650.9	119.5
22.	22-01-2025	Fines Handling Route	659.1	124.5
23.	23-01-2025	Fines Handling Route	619.5	125.9
24.	24-01-2025	Fines Handling Route	648.7	123.2
25.	25-01-2025	Fines Handling Route	690.1	139.3
26.	26-01-2025	Fines Handling Route	652.6	124.9
27.	27-01-2025	Fines Handling Route	654.9	122.4
28.	28-01-2025	Fines Handling Route	673.8	141.1
29.	29-01-2025	Fines Handling Route	683.2	136.6
30.	30-01-2025	Fines Handling Route	638.4	133.9
31.	31-01-2025	Fines Handling Route	672.0	137.0
Average			645.6	127.8

-----End of Report-----

Verified By

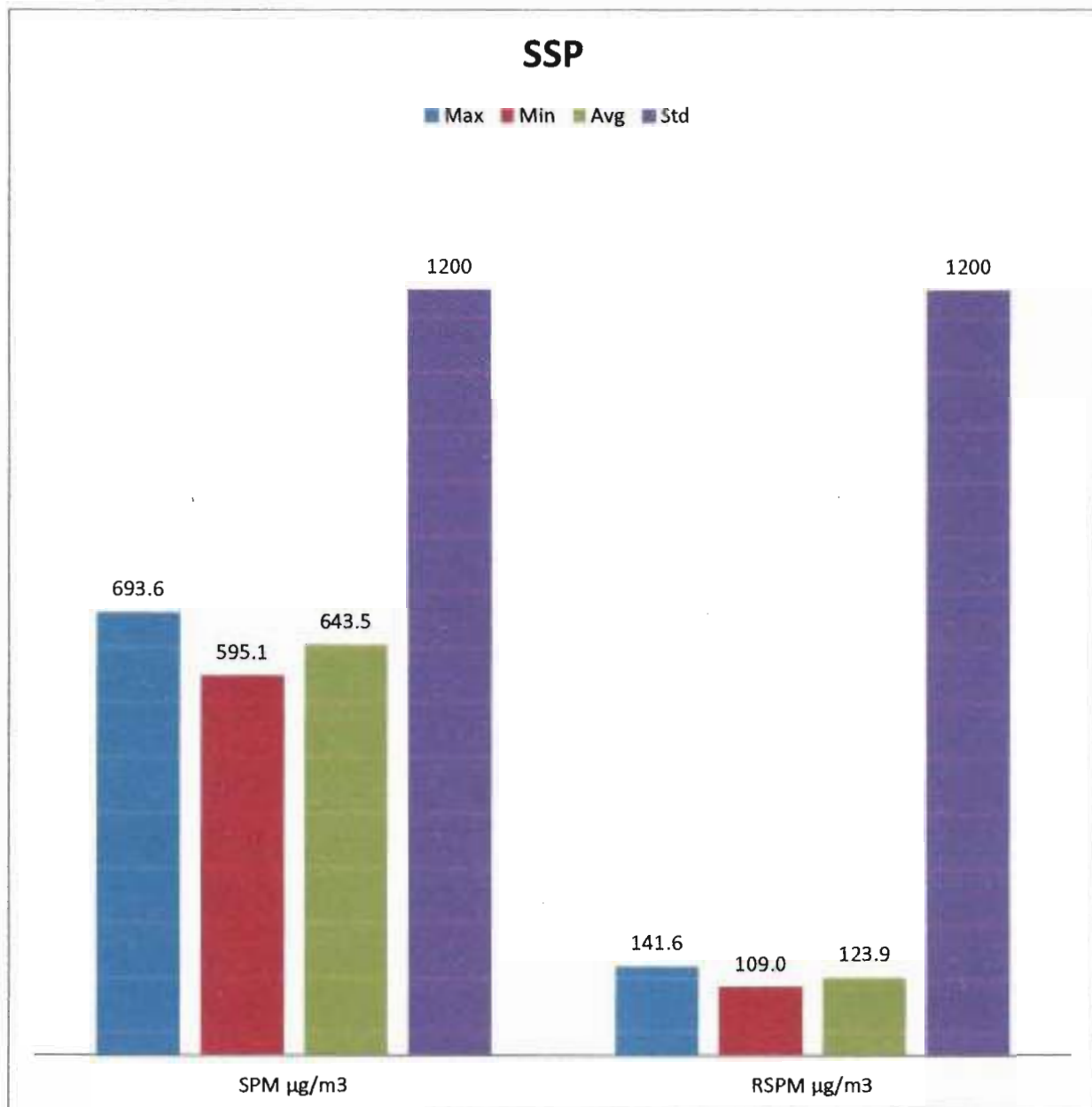

Technical Manager

Authorized By


Quality Manager

3.2.8 SSP (F8)

The pollution level in SSP Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **693.6** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **595.1** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **109.0** $\mu\text{g}/\text{m}^3$ to **141.6** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/108

Test Report Issue date: 05.02.2025

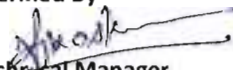
FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **SSP**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	SSP	658.7	125.6
2.	02-01-2025	SSP	655.3	127.7
3.	03-01-2025	SSP	672.7	126.5
4.	04-01-2025	SSP	662.8	130.9
5.	05-01-2025	SSP	635.4	114.8
6.	06-01-2025	SSP	659.5	119.0
7.	07-01-2025	SSP	674.7	135.2
8.	08-01-2025	SSP	648.8	121.3
9.	09-01-2025	SSP	651.2	131.1
10.	10-01-2025	SSP	677.5	122.0
11.	11-01-2025	SSP	663.3	123.4
12.	12-01-2025	SSP	693.6	134.3
13.	13-01-2025	SSP	663.0	137.7
14.	14-01-2025	SSP	692.6	126.5
15.	15-01-2025	SSP	630.7	125.1
16.	16-01-2025	SSP	603.5	109.0
17.	17-01-2025	SSP	635.5	115.6
18.	18-01-2025	SSP	614.9	116.2
19.	19-01-2025	SSP	627.8	122.8
20.	20-01-2025	SSP	608.7	127.0
21.	21-01-2025	SSP	608.3	123.5
22.	22-01-2025	SSP	613.8	118.8
23.	23-01-2025	SSP	595.1	121.6
24.	24-01-2025	SSP	690.4	126.0
25.	25-01-2025	SSP	627.8	126.4
26.	26-01-2025	SSP	691.3	141.6
27.	27-01-2025	SSP	630.7	130.4
28.	28-01-2025	SSP	620.2	116.0
29.	29-01-2025	SSP	605.7	112.2
30.	30-01-2025	SSP	607.7	115.1
31.	31-01-2025	SSP	628.6	118.2
Average			643.6	123.9

---End of Report---

Verified By

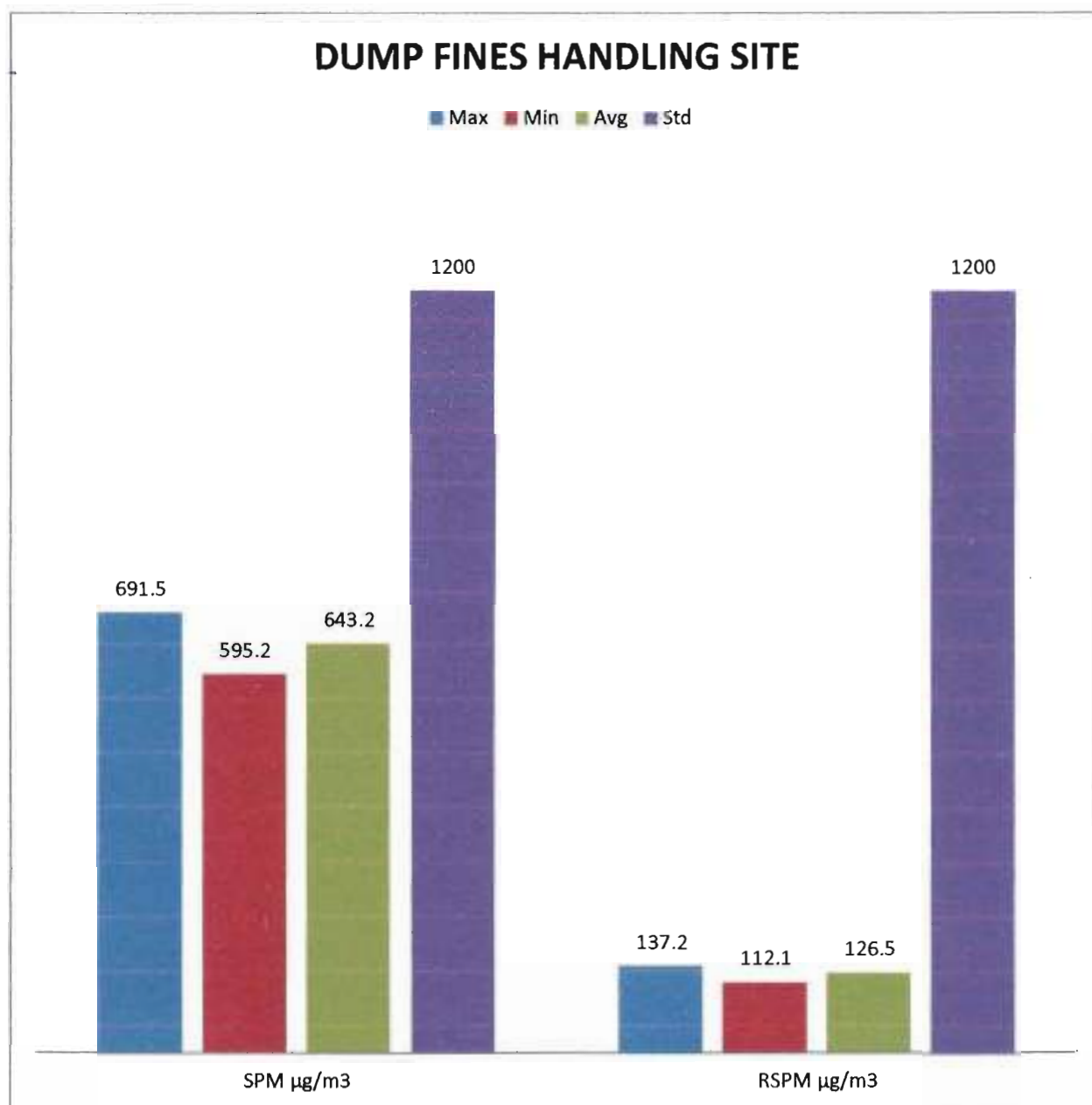

Technical Manager

Authorized By


Quality Manager


3.2.9 Dump Fines Handling Site (F9)

The pollution level in Dump Fines Handling Site for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **691.5 $\mu\text{g}/\text{m}^3$** whereas minimum concentration was observed **595.2 $\mu\text{g}/\text{m}^3$** and RSPM concentration ranges between **112.1 $\mu\text{g}/\text{m}^3$** to **137.2 $\mu\text{g}/\text{m}^3$** during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/109

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Dump Fines Handling Site**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Dump Fines Handling Site	656.4	134.7
2.	02-01-2025	Dump Fines Handling Site	691.5	129.6
3.	03-01-2025	Dump Fines Handling Site	595.2	112.1
4.	04-01-2025	Dump Fines Handling Site	666.6	129.9
5.	05-01-2025	Dump Fines Handling Site	650.9	127.6
6.	06-01-2025	Dump Fines Handling Site	608.1	114.2
7.	07-01-2025	Dump Fines Handling Site	633.5	124.0
8.	08-01-2025	Dump Fines Handling Site	624.1	120.5
9.	09-01-2025	Dump Fines Handling Site	637.6	125.3
10.	10-01-2025	Dump Fines Handling Site	609.9	127.4
11.	11-01-2025	Dump Fines Handling Site	597.3	118.3
12.	12-01-2025	Dump Fines Handling Site	683.5	124.1
13.	13-01-2025	Dump Fines Handling Site	689.7	132.2
14.	14-01-2025	Dump Fines Handling Site	636.1	130.8
15.	15-01-2025	Dump Fines Handling Site	676.2	134.1
16.	16-01-2025	Dump Fines Handling Site	627.0	128.0
17.	17-01-2025	Dump Fines Handling Site	684.9	134.2
18.	18-01-2025	Dump Fines Handling Site	624.2	128.4
19.	19-01-2025	Dump Fines Handling Site	626.6	130.9
20.	20-01-2025	Dump Fines Handling Site	654.1	132.3
21.	21-01-2025	Dump Fines Handling Site	624.8	118.4
22.	22-01-2025	Dump Fines Handling Site	667.8	137.2
23.	23-01-2025	Dump Fines Handling Site	652.9	125.3
24.	24-01-2025	Dump Fines Handling Site	639.2	131.6
25.	25-01-2025	Dump Fines Handling Site	598.7	113.5
26.	26-01-2025	Dump Fines Handling Site	689.0	136.9
27.	27-01-2025	Dump Fines Handling Site	608.3	127.3
28.	28-01-2025	Dump Fines Handling Site	685.7	124.6
29.	29-01-2025	Dump Fines Handling Site	602.8	115.1
30.	30-01-2025	Dump Fines Handling Site	636.6	126.1
31.	31-01-2025	Dump Fines Handling Site	661.5	128.3
Average			643.3	126.5

----End of Report----

Verified By

Technical Manager

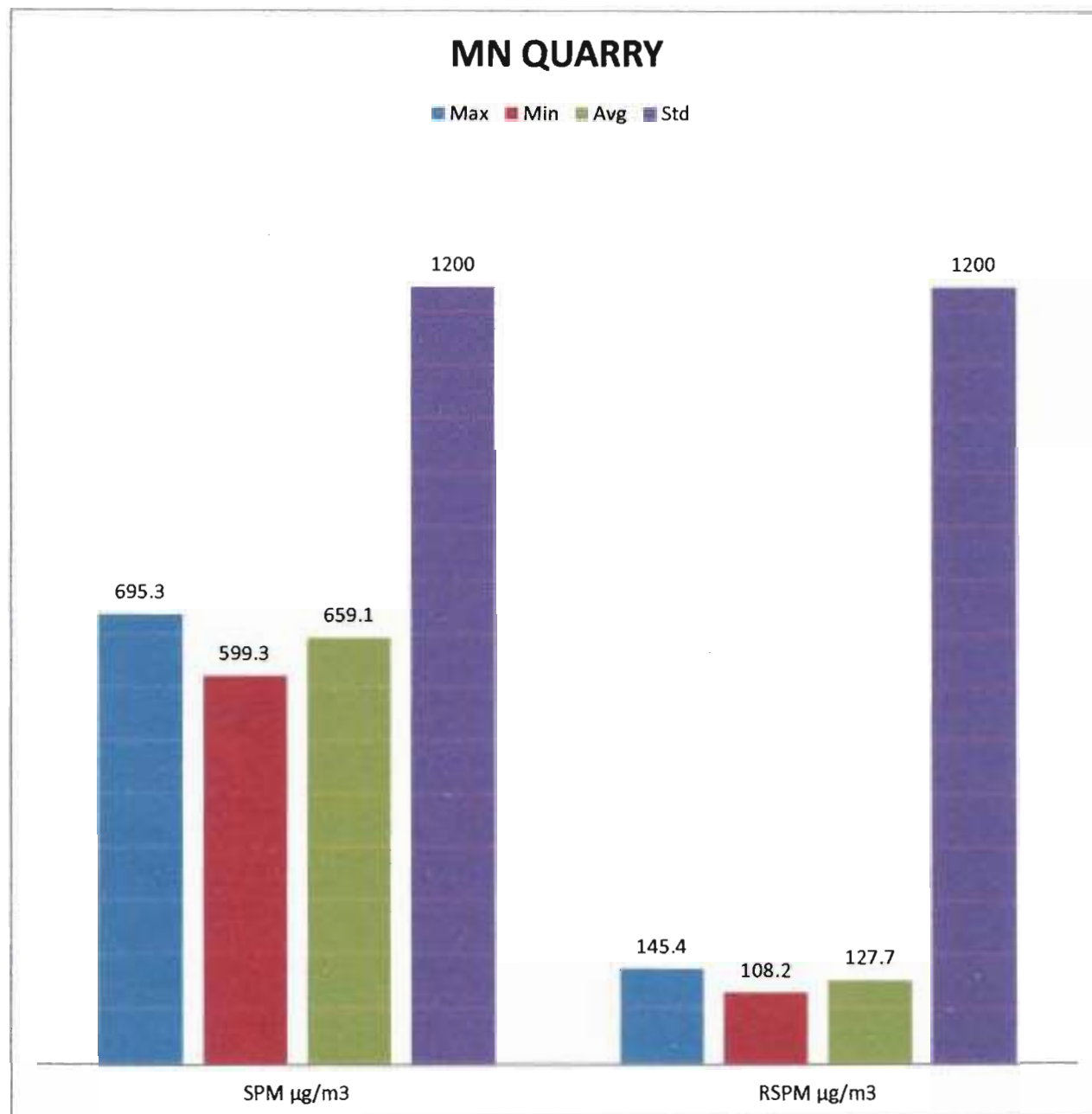
Authorized By

Quality Manager



3.2.10 Mn Quarry (F5)

The pollution level in Mn Quarry for the parameters SPM and RSPM is within the stipulated norms of CPCB. The maximum concentration of SPM was observed **659.3** $\mu\text{g}/\text{m}^3$ whereas minimum concentration was observed **599.3** $\mu\text{g}/\text{m}^3$ and RSPM concentration ranges between **108.2** $\mu\text{g}/\text{m}^3$ to **145.4** $\mu\text{g}/\text{m}^3$ during the month.





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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/FUG/110

Test Report Issue date: 05.02.2025

FUGITIVE EMISSION MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **RDS (APM 460 BL)**
3. Sampling Location : **Mn Quarry**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Sl. No.	Date	Sampling Location	Parameter	
			SPM $\mu\text{g}/\text{m}^3$	RSPM $\mu\text{g}/\text{m}^3$
1.	01-01-2025	Mn Quarry	686.1	137.9
2.	02-01-2025	Mn Quarry	674.2	137.2
3.	03-01-2025	Mn Quarry	668.8	126.8
4.	04-01-2025	Mn Quarry	695.3	126.1
5.	05-01-2025	Mn Quarry	651.3	122.8
6.	06-01-2025	Mn Quarry	685.6	142.9
7.	07-01-2025	Mn Quarry	627.8	118.4
8.	08-01-2025	Mn Quarry	680.9	137.5
9.	09-01-2025	Mn Quarry	684.8	129.8
10.	10-01-2025	Mn Quarry	674.9	134.9
11.	11-01-2025	Mn Quarry	623.2	129.2
12.	12-01-2025	Mn Quarry	689.3	136.2
13.	13-01-2025	Mn Quarry	642.1	118.8
14.	14-01-2025	Mn Quarry	657.8	120.4
15.	15-01-2025	Mn Quarry	695.2	145.4
16.	16-01-2025	Mn Quarry	678.6	130.5
17.	17-01-2025	Mn Quarry	668.0	138.4
18.	18-01-2025	Mn Quarry	661.7	121.9
19.	19-01-2025	Mn Quarry	646.5	124.8
20.	20-01-2025	Mn Quarry	672.1	127.1
21.	21-01-2025	Mn Quarry	609.3	120.2
22.	22-01-2025	Mn Quarry	599.3	108.2
23.	23-01-2025	Mn Quarry	680.3	129.6
24.	24-01-2025	Mn Quarry	619.5	118.0
25.	25-01-2025	Mn Quarry	614.5	116.3
26.	26-01-2025	Mn Quarry	673.1	135.8
27.	27-01-2025	Mn Quarry	668.8	124.3
28.	28-01-2025	Mn Quarry	669.4	124.3
29.	29-01-2025	Mn Quarry	623.4	115.0
30.	30-01-2025	Mn Quarry	692.6	139.0
31.	31-01-2025	Mn Quarry	616.3	120.8
Average			659.1	127.7

-----End of Report-----

Verified By

Technical Manager

Authorized By

Quality Manager



3.3 Surface/Effluent/Drinking Water Quality:

As per the guideline of CPCB, the following criteria shall be taken into consideration for use of the surface water bodies. Reports below shows the surface water quality analysis results at identified locations near the ML area.

Designated-Best-Use	Class of water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	- Total Coliforms Organism MPN/100ml shall be 50 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 6mg/l or more - Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor bathing (Organized)	B	- Total Coliforms Organism MPN/100ml shall be 500 or less - pH between 6.5 and 8.5 - Dissolved Oxygen 5mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	- Total Coliforms Organism MPN/100ml shall be 5000 or less - pH between 6 to 9 - Dissolved Oxygen 4mg/l or more - Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	- pH between 6.5 to 8.5 - Dissolved Oxygen 4mg/l or more - Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	- pH between 6.0 to 8.5 - Electrical Conductivity at 25C micro mhos/cm Max. 2250 - Sodium absorption Ratio Max. 26 - Boron Max. 2mg/l
	Below-E	Not Meeting A, B, C, D & E Criteria



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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.3.1 Surface Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC12751250000334F
		Test Report No.	ECO/LAB/SW/0050/0334/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Surface Water		
Sample Registration No.	0050	Name of Location	Karo Near Lease Boundary at Linture Village
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0334/01/2025

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is- 2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	35.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	36.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	3.5	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	28.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.09	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	<5.0	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.05	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.06	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S2- F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

- Test results relate to the items sampled & tested.
- Test report shall not be reproduced except in full without approval of the laboratory.
- The test samples will be disposed of after one Month from the date of issue of test report.
- BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-008		Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha		
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024
Type of Sample#	Surface Water		
Customer's Description of Sample#	Surface Water		
Mode of Collection of Sample	By Hand		
Date of Sampling	03/01/2025		
Visual Observation	N/A		
Packing, Markings, Seal#	Plastic Bottle. (Loc. Karo Near Lease Boundry at Limtur Village.		
Quantity#	1 Ltr.		
Date of Receipt of Sample	04/01/2025		
Period of Analysis	04/01/2025 To 10/01/2025		
Date of Reporting	10/01/2025		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.24	APHA 4500H+B 24th Edition, 2023
2	Cyanide CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.003	APHA 3125 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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391, Industrial Area, Phase - 1,
Panchkula - 134113,
Haryana (India)
Tel No. 0172 - 5064827, - 5064830
Website : www.idmagroup.co.in
Email : commercial@idmalab.co.in

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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512500000335F
		Test Report No.	ECO/LAB/SW/0050/0335/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Surface Water		
Sample Registration No.	0050	Name of Location	Jhikaria Nalla before Joining Karo River
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0335/01/2025

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	44.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	40.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	2.7	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	24.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.19	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	10.50	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.07	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.08	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ - F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager



Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-003			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	03/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc. Jhinkaria Nallah Before Joining Karo)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Date of Reporting	10/01/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.25	APHA 4500H+B 24th Edition, 2023
2	Cyanide CN	mg/L	<0.06	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.002	APHA 3125 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512500000336F
		Test Report No.	ECO/LAB/SW/0050/0336/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Surface Water		
Sample Registration No.	0050	Name of Location	Panpash Nallah
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0336/01/2025

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	34.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	38.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	6.2	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	38.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.20	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	8.45	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.11	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	0.06	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ - F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

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2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-004			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	03/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc. Panposh Nailah)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Date of Reporting	10/01/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.25	APHA 4500H-B 24rd Edition, 2023
2	Cyanide CN	mg/L	<0.05	APHA 4500CN-C&F 24rd Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24rd Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24rd Edition, 2023
5	Total Iron	mg/L	0.003	APHA 3125 B 24rd Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512500000337F
		Test Report No.	ECO/LAB/SW/0050/0337/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Surface Water		
Sample Registration No.	0050	Name of Location	Karo River Intake
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0337/01/2025

Sl. No.	Tests	Unit	Protocol	Detection Range	Result	Indian Standards As Is-2296(C)
1.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. :2017,2540-D	5 -5000	28.0	-
2.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. :2017,5220 A+C	1 -1000	46.0	-
3.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. :2017,5210 A+B	1 -1000	4.2	3.0
4.	Chloride as Cl	mg/l	APHA, 24th Ed. :2023,4500 Cl A+B	5-1000	28.0	600
5.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.13	1.5
6.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. :2017,4500NO ₃ -E	5-100	6.20	50
7.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3114 C	0.01-2	<0.01	0.2
8.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	0.05
9.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.10	3.0
10.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	1.5
11.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	15.0
12.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	0.005
13.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ₂ - F	0.05-10	<0.05	-
14.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.001	-
15.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.1	-
16.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.01	0.1
17.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.002	0.01
18.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.02	-

Statement of Conformity: The above tested parameters confirm as per IS-2296 Class-C limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

---End of Report---

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-005			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Surface Water			
Customer's Description of Sample#	Surface Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	03/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Karo River Intake)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Date of Reporting	10/01/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	Chemical Testing (Water)	-	-	-
1	pH	-	7.27	APHA 4500H+B 24th Edition, 2023
2	Cyanide CN	mg/L	<0.05	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	APHA 5500 B 24th Edition, 2023
4	Total Residual chlorine	mg/L	<0.1	APHA 4500Cl B 24th Edition, 2023
5	Total Iron	mg/L	0.007	APHA 3125 B 24th Edition, 2023

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

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Haryana (India)

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2.3.2 Effluent Waste Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC12751250000332F
		Test Report No.	ECO/LAB/WW/0050/0332/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Waste Water		
Sample Registration No.	0050	Name of Location	Oil Catch Pit Water Bottom Garbage
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0332/01/2025

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E)
						Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.98	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	46.5	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	40.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.8	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.26	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	5.90	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.16	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁶⁺	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
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4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-006			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	Waste Water			
Customer's Description of Sample#	Waste Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	03/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water Bottom Garage)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Date of Reporting	10/01/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	0.14	APHA4500Cl B 24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.06	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.012	CPCB Guide Manual/Water & waste water Analysis

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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391, Industrial Area, Phase - 1,

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Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No	TC127512500000333F
		Test Report No.	ECO/LAB/WW/0050/0333/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Waste Water		
Sample Registration No.	0050	Name of Location	Oil Catch pit water G-Area
Sampling Method	APHA 24 th Ed.:2023, 1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0333/01/2025

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	GSR 422 (E) Desirable Limit
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.72	5.5-9.0
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	28.5	100.0
3.	Chemical Oxygen Demand as COD	mg/l	APHA, 23rd Ed. : 2017,5220 A+C	1 -1000	48.0	250.0
4.	Biochemical Oxygen Demand as BOD (5 days at 20°C)	mg/l	APHA, 23rd Ed. : 2017,5210 A+B	1 -1000	3.9	30.0
5.	Oil & Grease as O&G	mg/l	APHA, 23rd Ed. : 2017,5520 A+D	2.5-1000	<2.5	10.0
6.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.25	2.0
7.	Nitrate nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO3-E	5-100	7.15	-
8.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017,3114 A+B	0.01-2	0.21	-
9.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017,3500 A+B	0.05-20	<0.01	0.2
10.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017,3500 Fe-B	0.02-50	<0.05	2.0
11.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.05-5	<0.05	3.0
12.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-50	<0.02	5.0
13.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017,5530 A+C	0.05 - 10	<0.05	1.0
14.	Sulphide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017,4500 S ²⁻ F	0.05-10	<0.05	2.0
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017,3112 A+B	0.001-1	<0.02	3.0
16.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.1-5.0	<0.001	0.01
17.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.01-1	<0.1	-
18.	Lead as Pb	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.002-2	<0.01	0.1
19.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017,3111 A+B	0.02-10	<0.002	2.0

Statement of Conformity: The above tested parameters confirm as per GSR 422 (E) limits for above tested parameters.

Note:

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-007			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024	Dated	23/10/2024	
Type of Sample#	Waste Water			
Customer's Description of Sample#	Waste Water			
Mode of Collection of Sample	By Hand			
Date of Sampling	03/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Plastic Bottle. (Loc.Oil Catchpit Water G-Area)			
Quantity#	1 Ltr.			
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Date of Reporting	10/01/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Waste Water)	-	-	-
1	Total Residual Chlorine	mg/L	0.13	APHA4500Cl B24th Edition, 2023
2	Cyanide as CN-	mg/L	<0.05	APHA4500CN-C&E 24th Edition, 2023
3	Total Iron	mg/L	0.022	CPCB Guide Manual/Water & waste water Analysis

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.3.3 Drinking Water Quality:

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512500000330F
		Test Report No.	ECO/LAB/DW/0050/0330/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Drinking Water		
Sample Registration No.	0050	Name of Location	Mount Club Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0330/01/2025

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.10	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.10	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.08	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	0.07	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ -F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note-

1. Test results relate to the items sampled & tested.
2. Test report shall not be reproduced except in full without approval of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

-----End of Report-----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-001			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Type of Sample#	Drinking Water			
Customer's Description of Sample#	Drinking Water			
Quantity#	1 Ltr.			
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc.Mount Club Tap Water)			
Mode of Collection of Sample	By Hand			
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024	
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Visual Observation	N/A			
Date of Reporting	10/01/2025			
Testing Protocol	IS 10500			

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of alternate	
	Chemical Testing (Water)	-	-	-	-	-
1	Total Residual Chlorine	mg/L	0.12	-	-	APHA 4500Cl B 24th Edition, 2023
2	Cyanide CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24th Edition, 2023
3	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24th Edition, 2023
4	Total Iron	mg/L	0.004	Max. 1.0	No Relaxation	APHA 3120 B 24th Edition, 2023
5	Lead as Pb	mg/L	<0.0005	Max. 0.01	No Relaxation	APHA 3120 B 24th Edition, 2023

Opinion :

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

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Haryana (India)

Tel No. 0172 - 5064827, - 5064830

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Email : commercial@idmalab.co.in

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/09

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	ULR No.	TC127512500000331F
		Test Report No.	ECO/LAB/DW/0050/0331/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Drinking Water		
Sample Registration No.	0050	Name of Location	Karo Guest House Tap Water
Sampling Method	APHA, 23rd Ed.:2017,1060 A+B	Sample Collected By	EMPL Representative
Date of Sample Collection	03.01.2025	Time of Sample Collection	-
Date of Sample Receipt	06.01.2025	Time of Sample Receipt	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52%	Sample ID Code	ECO/LAB/0331/01/2025

Sl. No.	TESTS	Unit	PROTOCOL	DETECTION RANGE	RESULT	INDIAN STANDARDS as per IS 10500:2012 (Reaff:2018)	
						Desirable	Permissible
1.	pH	-	APHA, 23rd Ed. : 2017,4500H+A+B	2 - 12	6.92	6.5-8.5	No Relax
2.	Total Suspended Solids as TSS	mg/l	APHA, 23rd Ed. : 2017,2540-D	5 -5000	<5.0	-	-
3.	Fluoride as F	mg/l	APHA, 23rd Ed. : 2017,4500-C	0.05 -10	0.06	1	1.5
4.	Nitrate Nitrogen	mg/l	APHA, 23rd Ed. : 2017,4500NO ₃ -E	5-100	<5.0	45	No Relax
5.	Arsenic as As	mg/l	APHA, 23rd Ed. : 2017, 3114 A+B	0.01-2	<0.01	0.01	0.05
6.	Hexavalent Chromium as Cr ⁺⁶	mg/l	APHA, 23rd Ed. : 2017, 3500 A+B	0.05-20	<0.05	-	-
7.	Iron as Fe	mg/l	APHA, 23rd Ed. : 2017, 3500 Fe-B	0.02-50	0.09	0.3	No Relax
8.	Copper as Cu	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.05-5	<0.05	0.05	1.5
9.	Zinc as Zn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-50	<0.02	5.0	15.0
10.	Phenolic Compound as C ₆ H ₅ OH	mg/l	APHA, 23rd Ed. : 2017, 5530 A+C	0.05 - 10	<0.001	0.001	0.002
11.	Sulfide as S ²⁻	mg/l	APHA, 23rd Ed. : 2017, 4500 S ²⁻ F	0.05-10	<0.05	0.05	No Relax
12.	Mercury as Hg	mg/l	APHA, 23rd Ed. : 2017, 3112 A+B	0.001-1	<0.001	0.001	No Relax
13.	Manganese as Mn	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.1-5.0	<0.1	0.1	0.3
14.	Cadmium as Cd	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.002-2	<0.002	0.003	No Relax
15.	Nickel as Ni	mg/l	APHA, 23rd Ed. : 2017, 3111 A+B	0.02-10	<0.02	0.02	No Relax

Statement of Conformity: The above tested parameters confirm as per IS 10500:2012(Reaff:2018).

Note:

1. Test results relate to the items sampled & tested.
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3. The test samples will be disposed of after one Month from the date of issue of test report.
4. BDL- Below Detection Limit

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited

TEST REPORT

Lab No.	040125N-E-002			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha.			
Type of Sample#	Drinking Water			
Customer's Description of Sample#	Drinking Water			
Quantity#	1 Ltr.			
Packing, Markings, Seal & Quantity#	Plastic Bottle. (Loc. Karo Guest House Tap Water)			
Mode of Collection of Sample	By Hand			
Work Order No.#	EMPL/NO/IDMA/10/2024	Dated	23/10/2024	
Date of Receipt of Sample	04/01/2025			
Period of Analysis	04/01/2025 To 10/01/2025			
Visual Observation	N/A			
Date of Reporting	10/01/2025			
Testing Protocol	IS 10500			

RESULTS

S.No.	Test Parameter	Units	Results	Limit of IS: 10500-2012		Test Method
				Requirement (Acceptable Limit)	Permissible Limit in absence of stipulate	
	Chemical Testing (Water)	-	-	-	-	-
1	Total Residual Chlorine	mg/L	<0.01	-	-	APHA 4500Cl B 24rd Edition, 2023
2	Cyanide CN	mg/L	<0.05	Max. 0.05	No Relaxation	APHA 4500CN-C&F 24rd Edition, 2023
3	Oil & Grease	mg/L	<2.5	-	-	APHA 5500 B 24rd Edition, 2023
4	Total Iron	mg/L	0.004	Max. 1.0	No Relaxation	APHA 3125 B 24rd Edition, 2023
5	Lead as Pb	mg/L	0.001	Max. 0.01	No Relaxation	APHA 3125 B 24rd Edition, 2023

Opinion :

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

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391, Industrial Area, Phase - 1,

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E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

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2.4 Surface Flow Rate (Nallah/Stream):

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/SWF/11

Test Report Issue date: 05.02.2025

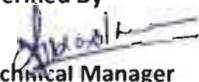
SURFACE FLOW RATE MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **Flow Meter**
3. Sampling Location : **Karo River Limtur Villg, Jhikaria Nallah , Panposh Nallah**
4. Sample collected by : **EMPL representative in presence of Client's representative.**

Location Name	Station Code	Result in (m/sec)
Karo River Limtur Village	SWFM1	0.60
Jhikaria nallah	SWFM2	0.32
Panposh Nallah	SWFM3	0.38

----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager


2.5 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, and wind speed and wind direction are given in **Table No. 2.5.2**. During the month of 'JANUARY 2025' the temperature varied from 7.8°C to 32.6°C & Relative Humidity varied from 70.0% to 98.4%. The maximum wind speed recorded during the month was 11 m/s and the overall average wind speed is calculated to be 3.33 m/s, 10.16% of the time the wind remained calm (<0.5 m/s). The predominant wind direction as observed to be from South South West (SSW) direction during the month. The total rainfall observed during the month was 0 & 0 out of 16 were rainy days. Max. And Min. Value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for JANUARY 2025 are given below.

Table No. 2.4.2: Results of Site Specific Meteorological Data

Parameters		January, 2025
Temperature (°C)	Maximum	32.6
	Minimum	7.8
	Average	19.6
Relative Humidity (%)	Maximum	98.4
	Minimum	70.0
	Average	28.2
Wind Speed(m/s)	Maximum	11
	Average	3.33
Wind Direction (%)	N	7.54
	NNE	2.08
	NE	1.3
	ENE	1.3
	E	3.64
	ESE	10.68
	SE	11.97
	SSE	12.76
	S	10.41
	SSW	14.32
	SW	10.66
	WSW	3.12
	W	5.2
	WNW	0.52
	NW	1.56
	NNW	2.86
	CALM	10.16
Rainfall(mm)	Monthly Total	0
	No. of rainy days	0



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Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/AWS/09

Test Report Issue date: 05.02.2025

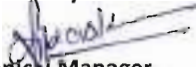
METEROLOGICAL MONITORING REPORT FOR JANUARY 2025

1. Name of Industry : **Steel Authority of India limited,
Bolani Ores Mines ,At/P.O: Bolani , Dist- Keonjhar , Odisha**
2. Monitoring Instruments : **Automatic Weather Station (AWS)**
3. Sampling Location : **DAV Public School**

Date	Temperature (°C)		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.01.2025	26.5	10	98.3	35	11.00	0	0
02.01.2025	27.8	8.7	98.1	32.8	9.50	0	0
03.01.2025	32.3	10.9	98.1	31.7	9.25	0	0
04.01.2025	31.7	12.1	98.2	35.8	10.00	0	0
05.01.2025	32.6	13.4	98.2	33.8	8.50	0	0
06.01.2025	31.9	15.9	98.3	35.7	10.50	0	0
07.01.2025	28.4	15.9	98.4	38.4	11.00	0	0
08.01.2025	26.5	9.3	97.3	31.2	10.75	0	0
09.01.2025	26.7	7.8	98	40.2	9.25	0	0
10.01.2025	32.3	8.8	98.1	31.7	9.25	0	0
11.01.2025	31.9	14.4	98.3	35.7	10.50	0	0
12.01.2025	30.2	15.9	98.4	42.7	9.75	0	0
13.01.2025	28.3	13.6	98.3	44.5	8.00	0	0
14.01.2025	28.6	9.4	98.1	31.2	9.75	0	0
15.01.2025	30.9	9.8	98.1	28.2	10.50	0	0
16.01.2025	31.1	11.8	98.3	32.9	8.50	0	0

----End of Report----

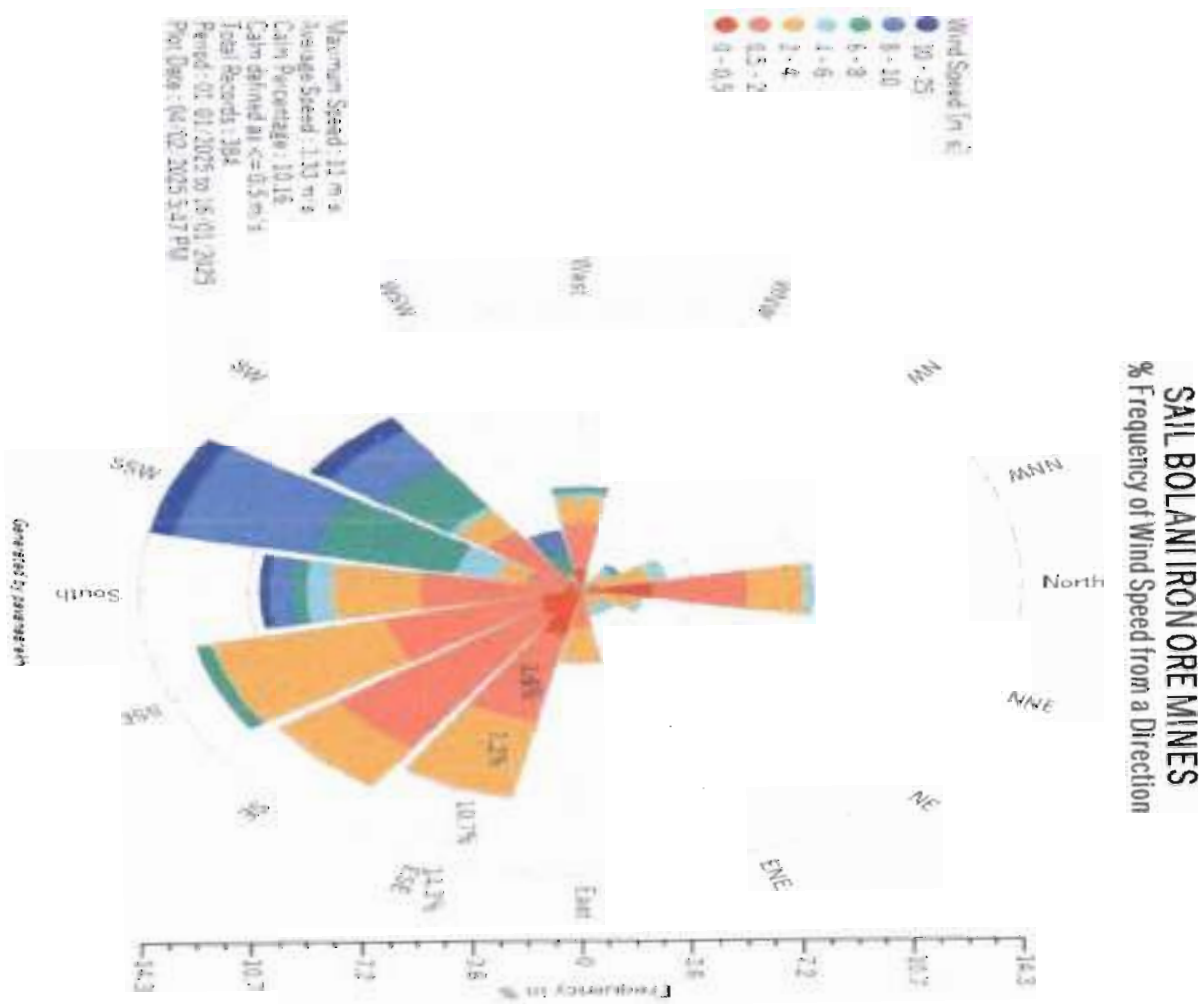
Verified By


Technical Manager

Authorized By


Quality Manager


Figure No.2: Wind Rose (24 hrly) During the Month of JANUARY 2025





ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Aliganj, Lucknow - 226 024

Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.6 Soil Quality Analysis

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	Test Report No.	ECO/LAB/SS/0050/0338/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample		
Sample Registration No.	0050	Name of Location	D-Area Plantation
Sampling Method	IS -2720	Sample Collected By	EMPL Representative
Date of Sample Collection	02.01.2025	Time of Sample Collection	-
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52 %	Sample ID Code	ECO/LAB/0338/01/2025

Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	7.51
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	144.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	172.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	168.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	28.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	87.5
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	176.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	892.0
9.	Av. Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	388.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	40.0
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	0.51
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	11.20
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	21.79
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	0.19
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.35
16.	Sodium Absorption ratio (SAR)	-	-	0.51
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	56.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	34.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	10.0

Opinion/Observation:

1. Test result applied to the sample as received.
2. Test report will not be generated again without prior written permission of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





TEST REPORT

Lab No.	150225L-ED-028			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPL/VO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	SOIL			
Customer's Description of Sample#	SOIL			
Mode of Collection of Sample	By Hand			
Date of Sampling	02/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Polythene Pouch, (Loc. D Area Plantation)			
Quantity#	1 Kg			
Date of Receipt of Sample	15/02/2025			
Period of Analysis	15/02/2025 To 21/02/2025			
Date of Reporting	21/02/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Sulphur (Available)	mg/kg	10.2	Manual for Soil Testing, Govt. of India, Jan.2011
2	Nitrogen	mg/kg	356.5	Manual for Soil Testing, Govt. of India, Jan.2011

Represents details provided by the customer.

End of Report



Authorised



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	Test Report No.	ECO/LAB/SS/0050/0339/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample		
Sample Registration No.	0050	Name of Location	D-Area OB Dump
Sampling Method	IS -2720	Sample Collected By	EMPL Representative
Date of Sample Collection	02.01.2025	Time of Sample Collection	-
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52 %	Sample ID Code	ECO/LAB/0339/01/2025

Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	5.79
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	98.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	116.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	132.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	38.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	144.0
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	264.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	1246.0
9.	Av. Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	352.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	56.0
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	2.95
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	1.44
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	76.0
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	51.0
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.54
16.	Sodium Absorption ratio (SAR)	-	-	0.71
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	52.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	26.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	22.0

Opinion/Observation:

1. Test result applied to the sample as received.
2. Test report will not be generated again without prior written permission of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited



TEST REPORT

Lab No.	150225L-ED-029	Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha	
Work Order No.#	EMPL/VO/IDMA/10/2024	Dated 23/10/2024
Type of Sample#	SOIL	
Customer's Description of Sample#	SOIL	
Mode of Collection of Sample	By Hand	
Date of Sampling	02/01/2025	
Visual Observation	N/A	
Packing, Markings, Seal#	Polythene Pouch. (Loc. D Area OB Dump)	
Quantity#	1 Kg	
Date of Receipt of Sample	15/02/2025	
Period of Analysis	15/02/2025 To 21/02/2025	
Date of Reporting	21/02/2025	

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Sulphur (Available)	mg/kg	11.7	Manual for Soil Testing, Govt. of India, Jan.2011
2	Nitrogen	mg/kg	362.2	Manual for Soil Testing, Govt. of India, Jan.2011

Represents details provided by the customer.

End of Report



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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	Test Report No.	ECO/LAB/SS/0050/0340/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample		
Sample Registration No.	0050	Name of Location	DAV School from Plantation
Sampling Method	IS -2720	Sample Collected By	EMPL Representative
Date of Sample Collection	02.01.2025	Time of Sample Collection	-
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52 %	Sample ID Code	ECO/LAB/0340/01/2025

Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	7.45
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	140.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	176.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	180.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	30.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	98.0
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	204.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	972.0
9.	Av .Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	480.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	44.0
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	0.59
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	9.45
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	24.8
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	0.19
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.36
16.	Sodium Absorption ratio (SAR)	-	-	0.51
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	57.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	29.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	14.0

Opinion/Observation:

1. Test result applied to the sample as received.
2. Test report will not be generated again without prior written permission of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager




TEST REPORT

Lab No.	150225L-ED-031			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPL/WO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	SOIL			
Customer's Description of Sample#	SOIL			
Mode of Collection of Sample	By Hand			
Date of Sampling	02/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Polythene Pouch. (Loc.DAV School Front Plantation)			
Quantity#	1 Kg			
Date of Receipt of Sample	15/02/2025			
Period of Analysis	15/02/2025 To 21/02/2025			
Date of Reporting	21/02/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Sulphur (Available)	mg/kg	10.64	Manual for Soil Testing, Govt. of India, Jan.2011
2	Nitrogen	mg/kg	371.6	Manual for Soil Testing, Govt. of India, Jan.2011

Represents details provided by the customer.

End of Report



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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)	Test Report No.	ECO/LAB/SS/0050/0341/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample		
Sample Registration No.	0050	Name of Location	Kiriburu Plantation
Sampling Method	IS -2720	Sample Collected By	EMPL Representative
Date of Sample Collection	02.01.2025	Time of Sample Collection	-
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52 %	Sample ID Code	ECO/LAB/0341/01/2025

Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	6.45
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	168.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	130.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	138.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	48.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	137.0
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	210.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	810.0
9.	Av. Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	232.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	27.90
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	0.18
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	1.76
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	5.45
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	2.97
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.30
16.	Sodium Absorption ratio (SAR)	-	-	0.71
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	55.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	33.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	12.0

Opinion/Observation:

- Test result applied to the sample as received.
- Test report will not be generated again without prior written permission of the laboratory.
- The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited



TEST REPORT

Lab No.	150225L-ED-032			Page No. 1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha			
Work Order No.#	EMPLWO/IDMA/10/2024		Dated	23/10/2024
Type of Sample#	SOIL			
Customer's Description of Sample#	SOIL			
Mode of Collection of Sample	By Hand			
Date of Sampling	02/01/2025			
Visual Observation	N/A			
Packing, Markings, Seal#	Polythene Pouch, (Loc. Kiriburu Plantation)			
Quantity#	1 Kg			
Date of Receipt of Sample	15/02/2025			
Period of Analysis	15/02/2025 To 21/02/2025			
Date of Reporting	21/02/2025			

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Sulphur (Available)	mg/kg	11.04	Manual for Soil Testing , Govt. of India Jan.2011
2	Nitrogen	mg/kg	362.1	Manual for Soil Testing , Govt. of India Jan.2011

Represents details provided by the customer.

End of Report



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TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL.)	Test Report No.	ECO/LAB/SS/0050/0342/01/2025
		Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample		
Sample Registration No.	0050	Name of Location	G-Area OB Dump Plantation
Sampling Method	IS -2720	Sample Collected By	EMPL Representative
Date of Sample Collection	02.01.2025	Time of Sample Collection	-
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025
Laboratory Environmental Condition	Temperature: 27 ± 2°C	Sample Quantity	As per Requirement
	Humidity: 52 %	Sample ID Code	ECO/LAB/0342/01/2025

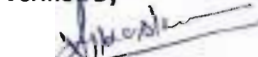
Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	6.80
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	98.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	104.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	126.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	28.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	114.0
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	256.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	790.0
9.	Av. Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	244.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	34.0
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	0.16
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	1.80
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	5.10
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	4.16
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.32
16.	Sodium Absorption ratio (SAR)	-	-	0.68
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	57.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	29.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	14.0

Opinion/Observation:

1. Test result applied to the sample as received.
2. Test report will not be generated again without prior written permission of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By


Technical Manager

Authorized By


Quality Manager




Idma Laboratories Limited



TEST REPORT

Lab No.	150225L-ED-033	Page No.	1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha		
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024
Type of Sample#	SOIL		
Customer's Description of Sample#	SOIL		
Mode of Collection of Sample	By Hand		
Date of Sampling	02/01/2025		
Visual Observation	N/A		
Packing, Markings, Seal#	Polythene Pouch, (Loc.G Area OB Dump Plantation)		
Quantity#	1 Kg		
Date of Receipt of Sample	15/02/2025		
Period of Analysis	15/02/2025 To 21/02/2025		
Date of Reporting	21/02/2025		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Sulphur (Available)	mg/kg	9.72	Manual for Soil Testing, Govt. of India, Jan.2011
2	Nitrogen	mg/kg	346.1	Manual for Soil Testing, Govt. of India, Jan.2011

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,

391, Industrial Area, Phase - 1,

Panchkula - 134113,

Haryana (India)

Tel No. 0172 - 5064827, - 5064830

Website : www.idmagroup.co.in

Email : commercial@idmalab.co.in

Disclaimer :

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- Any complaint/disciplinaries in this Test Report Should be communicated in writing within 15 days of the dispatch of Test Report.
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- In case of any feedback/complaints, please send email at testing@idmagroup.co.in or call at 0172 - 5064827 / 5064830



ECOMEN MINING PRIVATE LIMITED

(Formerly known as Ecomen Laboratories Private Limited)

Second Floor Hall, House No. B-1/8, Sector-H, Allganj, Lucknow - 226 024

Phone No. : 0522 - 4679201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

TEST REPORT

FORMAT NO. ECO/QS/FORMAT/08

NAME & ADDRESS OF CUSTOMER:	Boloni Ore Mines (SAIL)		Test Report No.	ECO/LAB/SS/0050/0343/01/2025
			Issue Date of Test Report	13.01.2025
Type of Sample	Soil sample			
Sample Registration No.	0050	Name of Location	F- Area Old OB Dump	
Sampling Method	IS -2720	Sample Collected By	EMPL Representative	
Date of Sample Collection	02.01.2025	Time of Sample Collection	-	
Date of Sample Received	02.01.2025	Time of Sample Received	10:30 AM	
Start Date of Analysis	06.01.2025	End Date of Analysis	13.01.2025	
Laboratory Environmental Condition	Temperature: 27 ± 2°C		Sample Quantity	As per Requirement
	Humidity: 52 %		Sample ID Code	ECO/LAB/0343/01/2025

Sl. No.	Parameters	Unit	Test Method	Result
1.	pH	-	IS:2720(Part-26) 1987, (Reaff: 2016)	6.45
2.	Electrical Conductivity	µmhos/cm	IS 14767 : 2000(Reaff: 2016)	124.0
3.	Total Soluble Solid	mg/kg	SOP No:S-10 Issue No.2, Date- 12-04-2021	128.0
4.	Nitrogen (N)	mg/kg	SOP No:S-14 Issue No.2, Date- 12-04-2021	152.0
5.	Av. Phosphorous (P ₂ O ₅)	kg/ha	SOP No:S-07 Issue No.2, Date- 12-04-2021	56.0
6.	Av. Potassium (K ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	108.0
7.	Av. Sodium (Na ₂ O)	mg/kg	SOP No:S-19 Issue No.2, Date- 12-04-2021	220.0
8.	Av. Calcium as Ca	mg/kg	IS 2720:Part 23:1976(Reaff:2015)	845.0
9.	Av. Magnesium as Mg	mg/kg	SOP No:S-27 Issue No.2, Date- 12-04-2021	248.0
10.	Chloride (Cl)	mg/kg	SOP No:S-04 Issue No.2, Date- 12-04-2021	31.5
11.	Copper (Cu)	mg/kg	SOP No:S-31 Issue No.2, Date- 12-04-2021	0.18
12.	Zinc (Zn)	mg/kg	SOP No:S-32 Issue No.2, Date- 12-04-2021	2.17
13.	Iron (Fe)	mg/kg	SOP No:S-33 Issue No.2, Date- 12-04-2021	3.80
14.	Manganese (Mn)	mg/kg	SOP No:S-36 Issue No.2, Date- 12-04-2021	3.70
15.	Organic Carbon	%	SOP No:S-17 Issue No.2, Date- 12-04-2021	0.30
16.	Sodium Absorption ratio (SAR)	-	-	0.68
17.	Grain Size Distribution			
a	Textural Class	-	SOP No:S-03 Issue No.2, Date- 12-04-2021	Sandy Loam
b	Sand	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	51.0
c	Silt	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	37.0
d	Clay	%	SOP No:S-03 Issue No.2, Date- 12-04-2021	12.0

Opinion/Observation:

1. Test result applied to the sample as received.
2. Test report will not be generated again without prior written permission of the laboratory.
3. The test samples will be disposed of after one Month from the date of issue of test report.

----End of Report----

Verified By

Technical Manager

Authorized By

Quality Manager





Idma Laboratories Limited



TEST REPORT

Lab No.	150225L-ED-030	Page No.	1/1
Customer#	Rourkela Steel Plant Bolani Ores Mines, P.O. Bolani District Keonjar- Odisha- 758037 Odisha		
Work Order No.#	EMPL/WO/IDMA/10/2024	Dated	23/10/2024
Type of Sample#	SOIL		
Customer's Description of Sample#	SOIL		
Mode of Collection of Sample	By Hand		
Date of Sampling	02/01/2025		
Visual Observation	N/A		
Packing, Markings, Seal#	Polythene Pouch. (Loc.F Area Old OB Dump)		
Quantity#	1 Kg		
Date of Receipt of Sample	15/02/2025		
Period of Analysis	15/02/2025 To 21/02/2025		
Date of Reporting	21/02/2025		

RESULTS

S.No.	Test Parameter	Units	Results	Test Method
	CHEMICAL TESTING (Soil)	-	-	-
1	Subphur (Available)	mg/kg	9.88	Manual for Soil Testing, Govt. of India, Jan.2011
2	Nitrogen	mg/kg	382.3	Manual for Soil Testing, Govt. of India, Jan.2011

Represents details provided by the customer.

End of Report



Idma Laboratories Limited

Idma Corporate Park,
391, Industrial Area, Phase - 1,
Panchkula - 134113,
Haryana (India)
Tel No. 0172 - 5064827, - 5064830
Website : www.idmagroup.co.in
Email : commercial@idmalab.co.in

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ANNEXURE-III
ANALYSIS OF PEAK PARTICLE VELOCITY

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
बी. डी.जी (ई) / एस.एम.एस. एक्सप्लोसिव्स संयंत्र, बोलानी
पोस्ट: बोलानी, जिला: केऊनझर (ओडिशा) - 758037
Indian Oil Corporation Limited
BDG (E): SMS Explosives Support Plant, Bolani
P.O. Bolani, Dist.-Keonjhar (Odisha) - 758037



बी.डी.जी (एक्सप्लोसिव्स)
BDG (Explosives)

IOCL-Expl./Bolani/BOM/E&L/GVR/2025-26/01

Date: 25.06.2025

To,
The General Manager (E&L)
Bolani Ore Mines, SAIL RSP
Keonjhar, Odisha-758037

Subject: Submission of Report of Ground Vibration Test due to blasting.

Ref: BOM/E&L/B-2025-600 Dated 08.04.2025

Dear Sir,

With reference to your above referred request letter for conducting blast induced ground vibration study at Bolani Ores mines site for statutory purpose, we have conducted the study from 01.06.2025 to 15.06.2025. Planned timeline of vibration study was as follows:

Location	Date of study	Remark
Near F Area Hopper	03.06.2025	Blast induced ground vibration
Near Bolani Hospital	10.06.2025	
Near DAV Public School	12.06.2025	
Near Lakshmi Mandap	12.06.2025	

Study was carried out in the presence our team and the officer nominated by GM (E&L) BOM. Detailed report is attached herewith. Hope this will serve your purpose.

Thanking you,

For, Indian Oil Corporation Limited

Manish Kumar

Assistant Manager (Marketing)

Unit In-Charge, IOCL Plant-Bolani

Manish Kumar

Asst. Manager, MKTG

Indian Oil Corporation Limited

Bulk Expl. Support Plant, Bolani-758037

Dist-Keonjhar (Odisha)

पंजीकृत कार्यालय: जी-9, अली यावर जंग मार्ग बॉन्ड्रा (पूर्व), मुम्बई - 400 051 (भारत)

Regd. Office : G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai - 400 051 (India)

CIN - L23201MH1969GO1011388

VIBRATION-CUM-BLAST REPORT				
SN	PARTICULARS	REMARKS		
1	Date of Blast	03.06.2025		
2	Location /Bench	F AREA NEAR HOPPER		
3	Hole Dia (mm)	150 mm		
4	No. of Holes	70		
5	Bench height (m)	5		
	Drilling Parameters			
6	Avg. Depth of the hole (m)	5.5		
7	Spacing (m)	3.0		
8	Burden (m)	2.3		
9	Block Volume (m3)	2656.5		
11	Type of Initiators	NONEL		
12	Average Explosive Charge per hole (Kg)	54.72		
13	Maximum Explosives Charge per Delay (Kg)	60.15		
14	Total Primer used (Kg)	10.50		
15	Total Bulk Explosives (Kg)	3820.00		
16	Total Explosive used	3830.50		
	VIBRATION MEASUREMENT:			
17	Distance of Vibration M/c from Blast Site	Approx 400.5 m from Blast face		
18	Max. PPV at Orthogonal Directions (mm/sec.)	T	V	L
		2.152	1.513	2.317
19	Corresponding Frequency (Hz)	4.7	5.3	5.1
20	Peak Vector Sum	2.907 mm/sec at 0.908 sec		
	POST BLAST OBSERVATION			
21	Fragmentation	Good		
22	Fly Rock	Nil		
23	Muck Profile	As required		



For, Indian Oil Corporation Limited

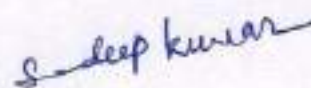
Manish Kumar

Asst. Manager, MKTG

Indian Oil Corporation Limited

Bulk Expl. Support Plant, Bolani-758037

Dist-Keonjhar (Odisha)



Blasting I/C

BOM, RSP, SAIL

Sandeep Kumar

DGM (Mining)

BOM-SAIL-RSP

Date/Time Long at 13:44:06 June 3, 2025
Trigger Source Geo: 0.250 mm/s, Mic: 2.000 pa.(L)
Range Geo: 254.0 mm/s
Record Time 10.315 sec (Auto=5Sec) at 2048 sps
Operator/Setup: Operator/IOCL GVR.MMB

Serial Number UM16996 V 10-89 Micromate ISEE
Battery Level 3.8 Volts
Unit Calibration December 30, 2024 by UES New Delhi
File Name _TEMP.EVT

GPS Location Latitude Longitude
 Source: 022 5.483 N 085 18.129 E
 Sensor1: 022 5.616 N 085 18.313 E
 Distance: 400.5 m

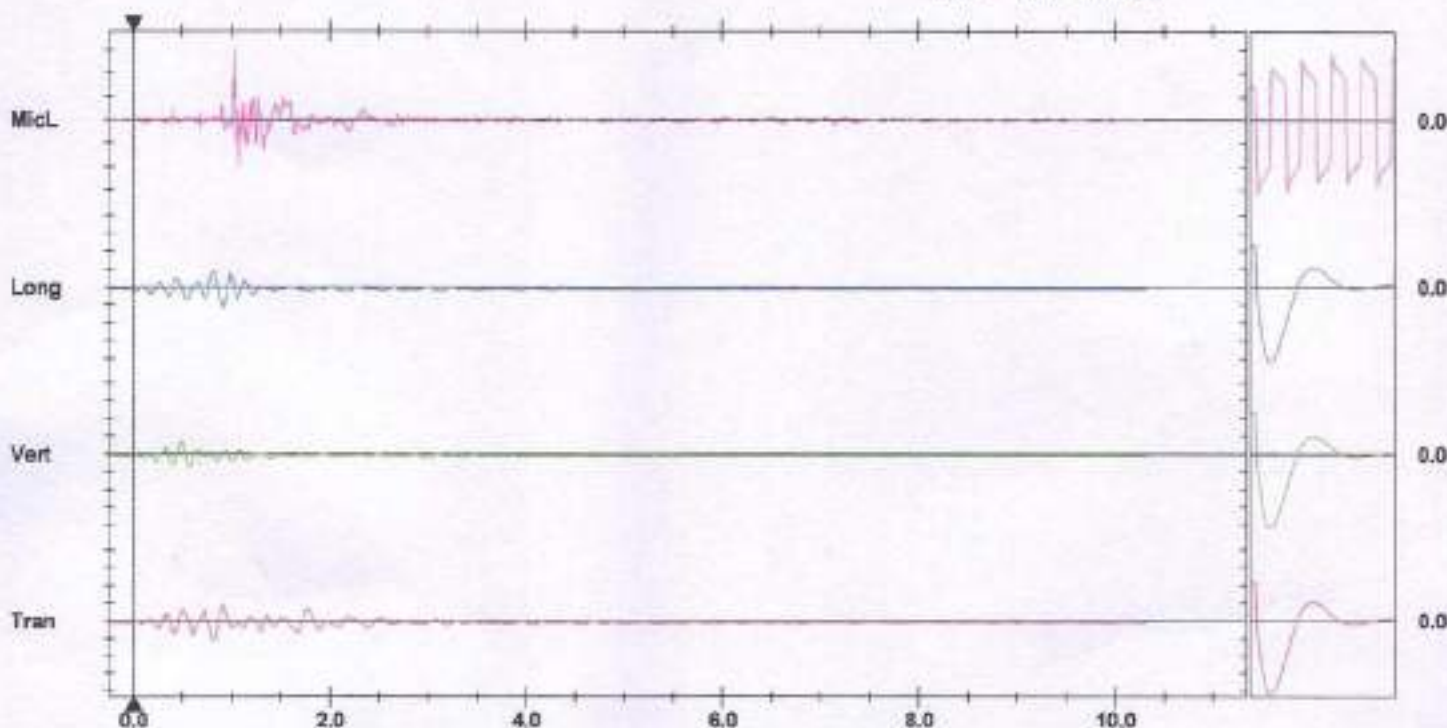
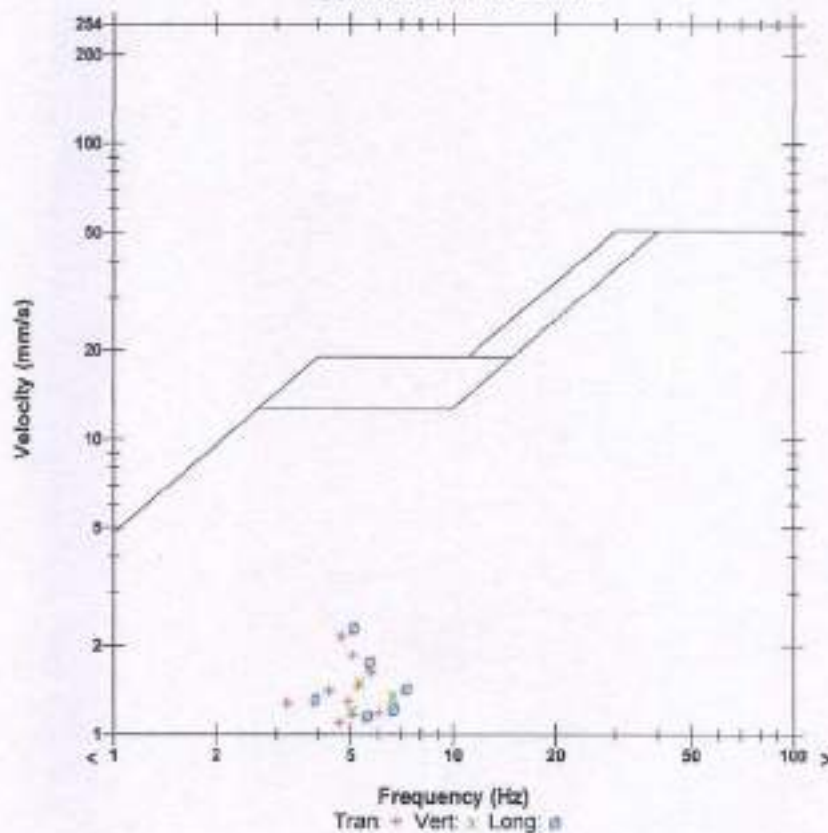
Notes
 Location: BOLANI F AREA
 Client: BOLANI ORES MINES
 User Name: INDIAN OIL CORPORATION LIMITED
 General:

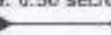
Microphone Linear Weighting
PSPL 15.24 pa.(L) at 1.029 sec
ZC Freq 15.5 Hz
Channel Test Passed (Freq = 18.7 Hz Amp = 1128 mv)

	Tran	Vert	Long	
PPV	2.152	1.513	2.317	mm/s
ZC Freq	4.7	5.3	5.1	Hz
Time (Rel. to Trig)	0.811	0.668	0.915	sec
Peak Acceleration	0.015	0.013	0.013	g
Peak Displacement	0.074	0.055	0.067	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.3	Hz
Overswing Ratio	4.0	4.4	3.9	

Peak Vector Sum 2.907 mm/s at 0.908 sec

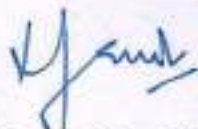
USBM R18507 And OSMRE



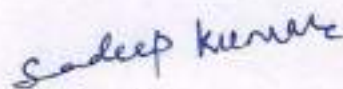
Time Scale: 0.50 sec/div Amplitude Scale: Geo: 2.000 mm/s/div Mic: 5.000 pa.(L)/div
 Trigger = 

Sensor Check

VIBRATION-CUM-BLAST REPORT				
SN	PARTICULARS	REMARKS		
1	Date of Blast	10.06.2025		
2	Location /Bench	D AREA BOLANI		
3	Hole Dia (mm)	100 mm		
4	No. of Holes	55		
5	Bench height (m)	5		
	Drilling Parameters			
6	Avg. Depth of the hole (m)	4.8		
7	Spacing (m)	2.9		
8	Burden (m)	2.4		
9	Block Volume (m ³)	1837.44		
11	Type of Initiators	NONEL		
12	Average Explosive Charge per hole (Kg)	24.33		
13	Maximum Explosives Charge per Delay (Kg)	25.15		
14	Total Primer used (Kg)	8.25		
15	Total Bulk Explosives (Kg)	1330.00		
16	Total Explosive used	1338.25		
	VIBRATION MEASUREMENT:			
17	Distance of Vibration M/c from Blast Site	Approx 1047.9 m from Blast face		
18	Max. PPV at Orthogonal Directions (mm/sec.)	T	V	L
		0.315	0.512	0.481
19	Corresponding Frequency (Hz)	4.0	3.1	3.0
20	Peak Vector Sum	0.534 mm/sec at 1.510 sec		
	POST BLAST OBSERVATION			
21	Fragmentation	Good		
22	Fly Rock	Nil		
23	Muck Profile	As required		



For, Indian Oil Corporation Limited
Manish Kumar
 Asst. Manager, MKTG
 Indian Oil Corporation Limited
 Bulk Expl. Support Plant, Bolani-758037
 Dist-Keonjhar (Odisha)



Blasting I/C
 BOM, RSP, SAIL
Sandeep Kumar
 DGM (Mining)
 BOM-SAIL-RSP

Date/Time Long at 11:32:04 June 10, 2025
 Trigger Source Geo: 0.150 mm/s, Mic: 2.000 pa.(L)
 Range Geo: 254.0 mm/s
 Record Time 16.038 sec (Auto=5Sec) at 2048 sps
 Operator/Setup Operator/IOCL GVR/MMB

Serial Number UM16886 V 10-89 Micromate ISEE
 Battery Level 3.7 Vols
 Unit Calibration December 30, 2024 by UES New Delhi
 File Name _TEMP.EVT

GPS Location Latitude Longitude
 Source: 022 7.517 N 085 18.999 E
 Sensor1: 022 8.952 N 085 20.031 E
 Distance: 1047.9 m

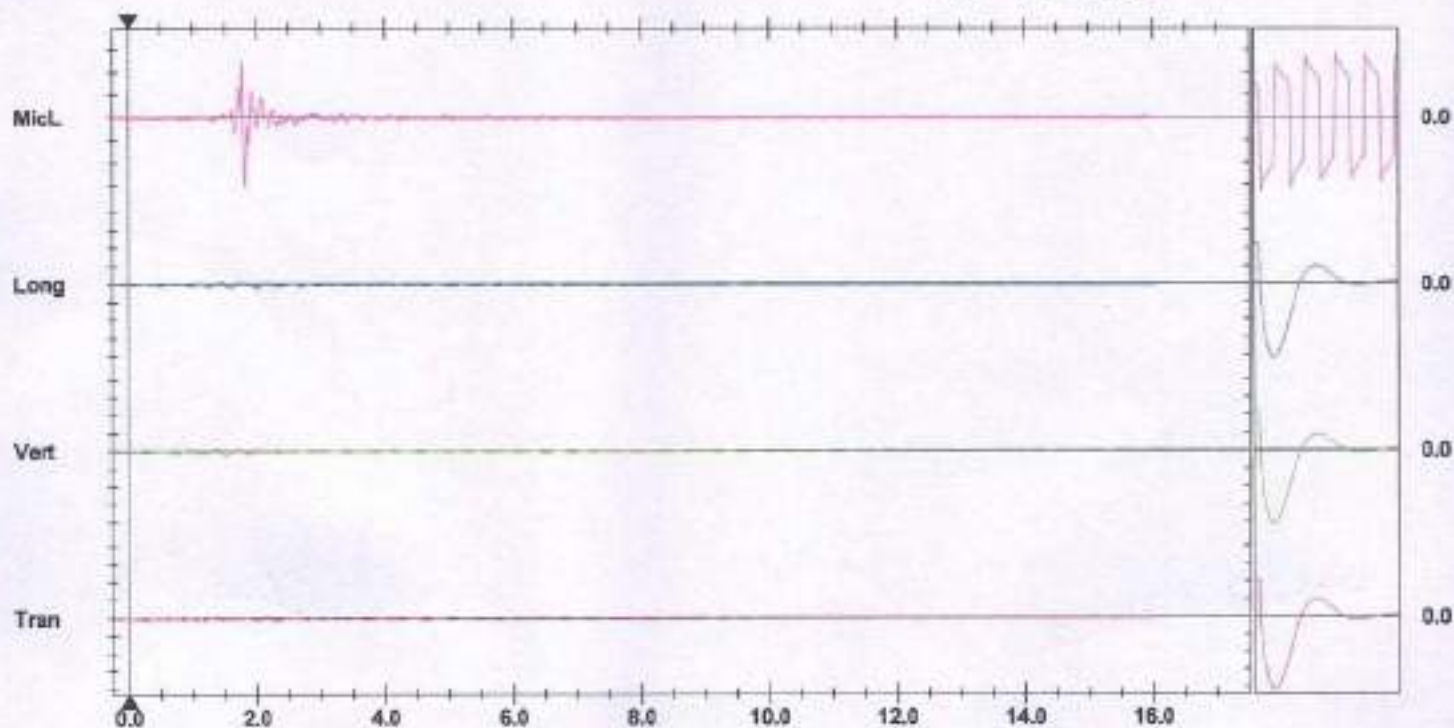
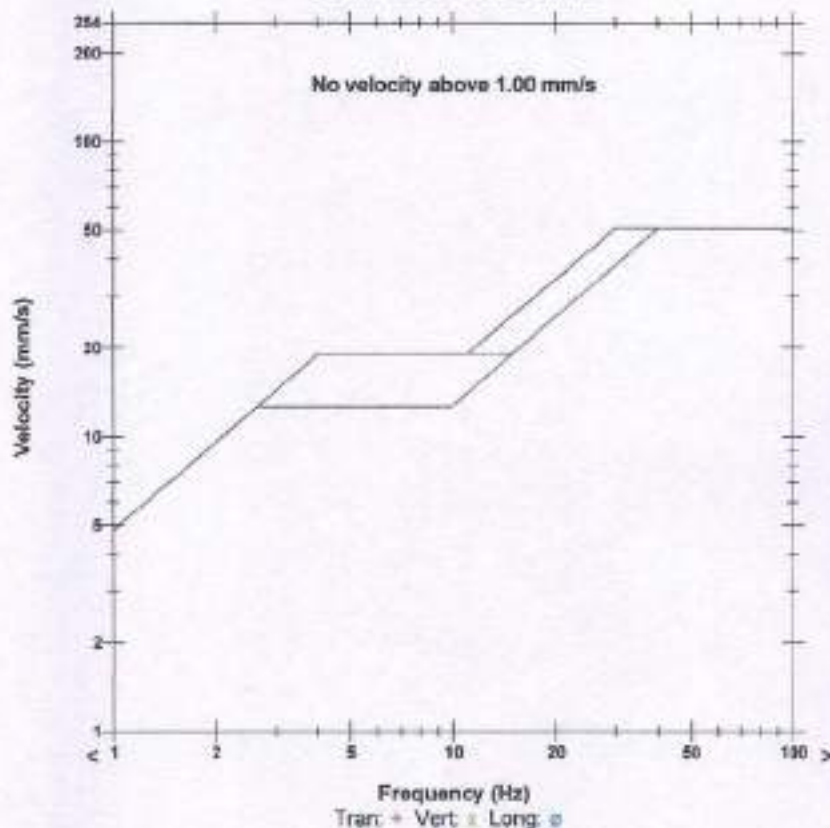
Notes
 Location: BOLANI HOSPITAL
 Client: BOLANI ORES MINES
 User Name: INDIAN OIL CORPORATION LIMITED
 General:

Microphone Linear Weighting
 PSPL 3.072 pa.(L) at 1.824 sec
 ZC Freq 4.9 Hz
 Channel Test Passed (Freq = 18.7 Hz Amp = 1177 mv)

	Tran	Vert	Long	
PPV	0.315	0.512	0.481	mm/s
ZC Freq	4.0	3.1	3.0	Hz
Time (Rel. to Trig)	1.191	1.509	1.595	sec
Peak Acceleration	0.010	0.008	0.010	g
Peak Displacement	0.063	0.077	0.059	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.5	Hz
Overswing Ratio	4.0	4.5	3.9	

Peak Vector Sum 0.534 mm/s at 1.510 sec

USBM R18507 And OSMRE



Time Scale: 0.50 sec/div Amplitude Scale: Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div
 Trigger =

Sensor Check

VIBRATION-CUM-BLAST REPORT				
SN	PARTICULARS	REMARKS		
1	Date of Blast	12.06.2025		
2	Location /Bench	D AREA BOLANI		
3	Hole Dia (mm)	100 mm		
4	No. of Holes	60		
5	Bench height (m)	5		
	Drilling Parameters			
6	Avg. Depth of the hole (m)	4.7		
7	Spacing (m)	2.5		
8	Burden (m)	2.0		
9	Block Volume (m3)	1410		
11	Type of Initiators	NONEL		
12	Average Explosive Charge per hole (Kg)	20.98		
13	Maximum Explosives Charge per Delay (Kg)	25.15		
14	Total Primer used (Kg)	9.00		
15	Total Bulk Explosives (Kg)	1250.00		
16	Total Explosive used	1259.00		
	VIBRATION MEASUREMENT:			
17	Distance of Vibration M/c from Blast Site	Approx 773.8 m from Blast face		
18	Maxi. PPV at Orthogonal Directions (mm/sec.)	T	V	L
		0.701	0.631	0.788
19	Corresponding Frequency (Hz)	3.9	7.5	2.8
20	Peak Vector Sum	0.892 mm/sec at 130.220 sec		
	POST BLAST OBSERVATION			
21	Fragmentation	Good		
22	Fly Rock	Nil		
23	Muck Profile	As required		

For, Indian Oil Corporation Limited
Manish Kumar
 Asst. Manager, MKTG
 Indian Oil Corporation Limited
 Bulk Expl. Support Plant, Bolani-758037
 Dist-Keonjhar (Odisha)

Blasting I/C
 BOM, RSP, SAIL
Sandeep Kumar
 DGM (Mining)
 BOM-SAIL-RSP

Date/Time Vert at 11:44:18 June 12, 2025
Trigger Source Geo: 0.150 mm/s, Mic: 2.000 pa.(L)
Range Geo: 254.0 mm/s
Record Time 138.0 sec (Auto=55Sec) at 2048 sps
Operator/Setup: Operator/IOCL GVR,MMB

Serial Number UM16986 V 10-89 Micromate ISEE
Battery Level 3.7 Volts
Unit Calibration December 30, 2024 by UES New Delhi
File Name _TEMP.EVT

GPS Location **Latitude** **Longitude**
Source: 022 7.517 N 085 19.999 E
Sensor1: 022 7.146 N 085 20.206 E
Distance: 773.8 m

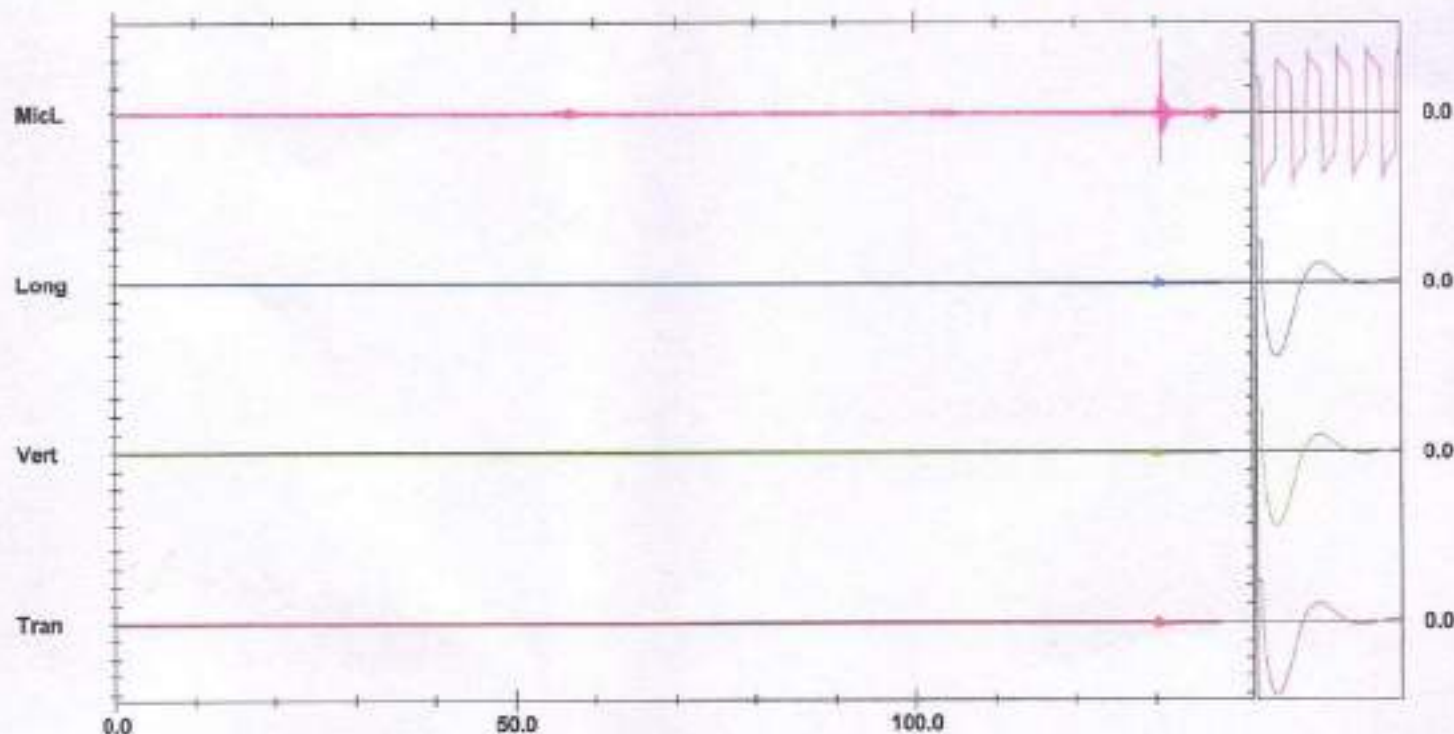
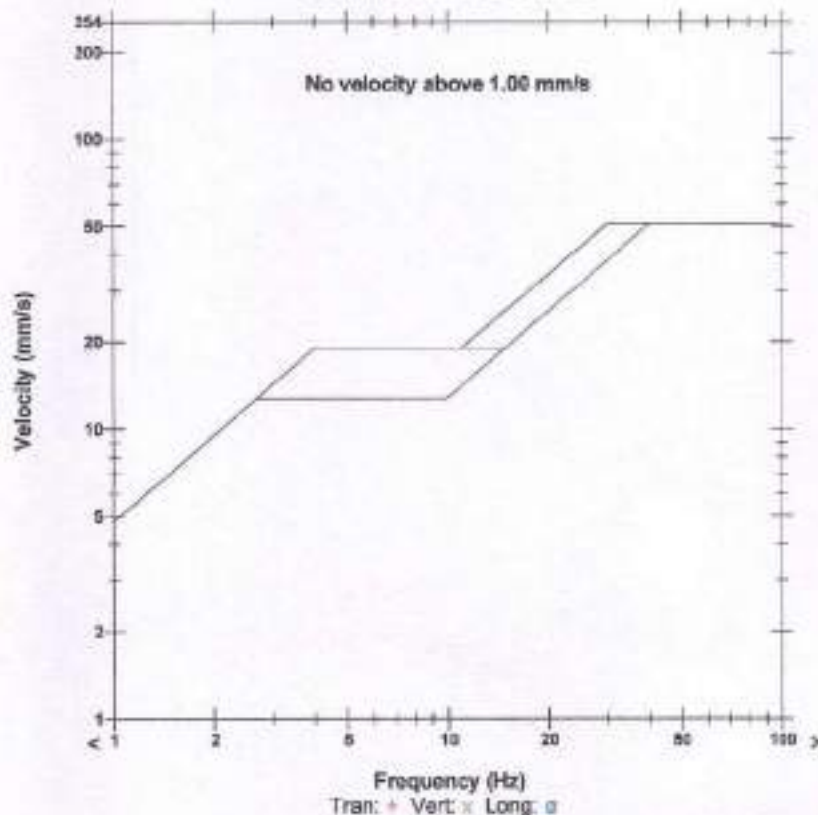
Notes
Location: DAV PUBLIC SCHOOL
Client: BOLANI ORES MINES
User Name: INDIAN OIL CORPORATION LIMITED
General:

Microphone Linear Weighting
PSPL 5.570 pa.(L) at 130.746 sec
ZC Freq 11.6 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1148 mv)

	Tran	Vert	Long	
PPV	0.701	0.631	0.788	mm/s
ZC Freq	3.9	7.5	2.8	Hz
Time (Rel. to Trig)	129.969	130.320	130.063	sec
Peak Acceleration	0.012	0.015	0.013	g
Peak Displacement	9.604	11.35	10.34	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	3.9	4.4	3.9	

Peak Vector Sum 0.892 mm/s at 130.220 sec

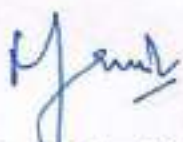
USBM R18507 And OSMRE

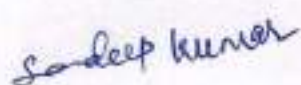


Time Scale: 10.00 sec/div Amplitude Scale: Geo: 2.000 mm/s/div Mic: 2.000 pa.(L)/div

Sensor Check

VIBRATION-CUM-BLAST REPORT				
SN	PARTICULARS	REMARKS		
1	Date of Blast	12.06.2025		
2	Location /Bench	PANPOSH AREA BOLANI		
3	Hole Dia (mm)	100 mm		
4	No. of Holes	30		
5	Bench height (m)	5		
	Drilling Parameters			
6	Avg. Depth of the hole (m)	4.76		
7	Spacing (m)	2.5		
8	Burden (m)	2		
9	Block Volume (m3)	714		
11	Type of Initiators	NONEL		
12	Average Explosive Charge per hole (Kg)	24.15		
13	Maximum Explosives Charge per Delay (Kg)	25.15		
14	Total Primer used (Kg)	4.50		
15	Total Bulk Explosives (Kg)	720.00		
16	Total Explosive used	724.50		
	VIBRATION MEASUREMENT:			
17	Distance of Vibration M/c from Blast Site	Approx 846.4 m from Blast face		
18	Max. PPV at Orthogonal Directions (mm/sec.)	T	V	L
		0.378	0.434	0.520
19	Corresponding Frequency (Hz)	5.1	4.8	3.0
20	Peak Vector Sum	0.582 mm/sec at 0.784 sec		
	POST BLAST OBSERVATION			
21	Fragmentation	Good		
22	Fly Rock	Nil		
23	Muck Profile	As required		


 For, Indian Oil Corporation Limited
Manish Kumar
 Asst. Manager, MKTG
 Indian Oil Corporation Limited
 Bulk Expl. Support Plant, Bolani-758037
 Dist-Keonjhar (Odisha)


Blasting I/C
 BOM, RSP, SAIL
 Sandeep Kumar
 DGM (Mining)
 BOM-SAIL-RSP

Date/Time Vert at 12:58:37 June 12, 2025
Trigger Source Geo: 0.150 mm/s, Mic: 2.000 pa.(L)
Range Geo: 254.0 mm/s
Record Time 9.5 sec (Auto=5Sec) at 2048 sps
Operator/Setup: Operator/IOCL GVR.MMB

Serial Number UM16986 V 10-89 Micromate ISEE
Battery Level 3.7 Volts
Unit Calibration December 30, 2024 by UES New Delhi
File Name __TEMP.EVT

GPS Location **Latitude** **Longitude**
Source: 022 6.798 N 085 19.427 E
Sensor1: 022 6.609 N 085 19.876 E
Distance: 846.4 m

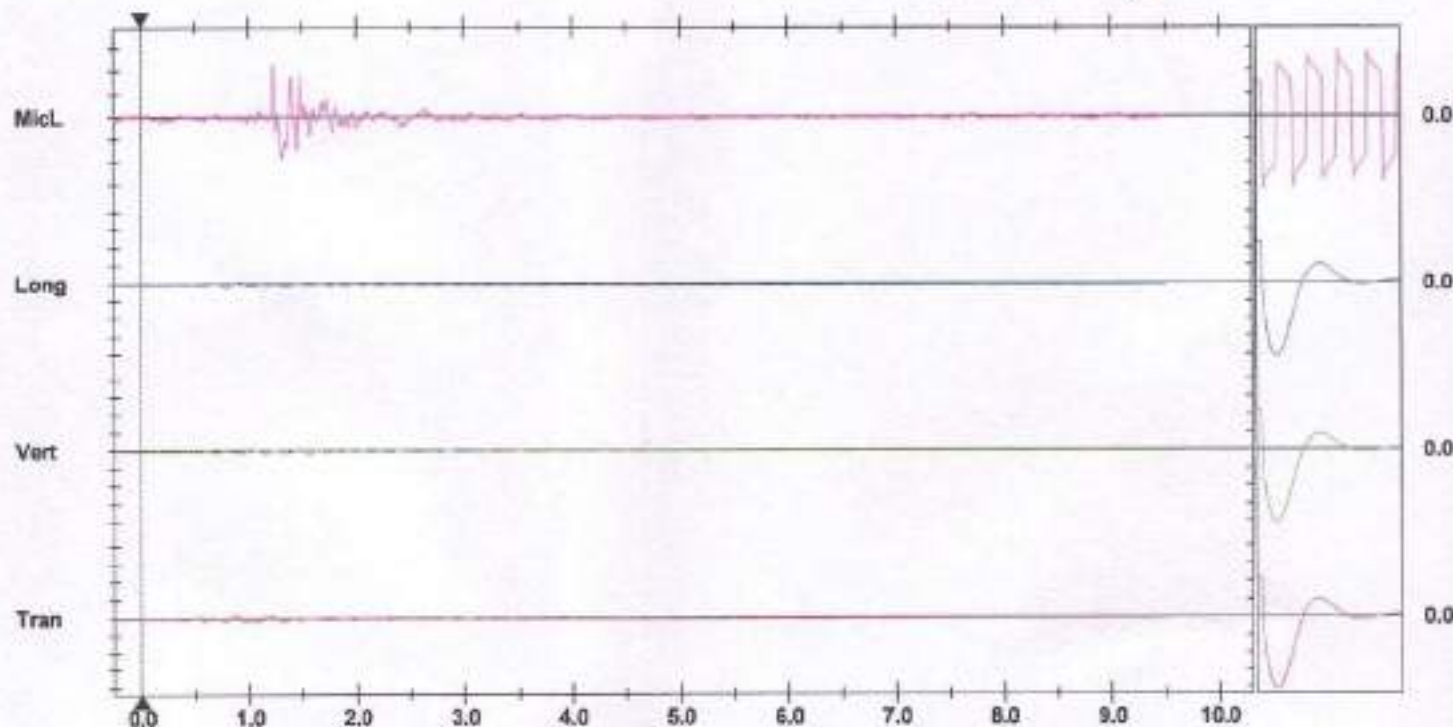
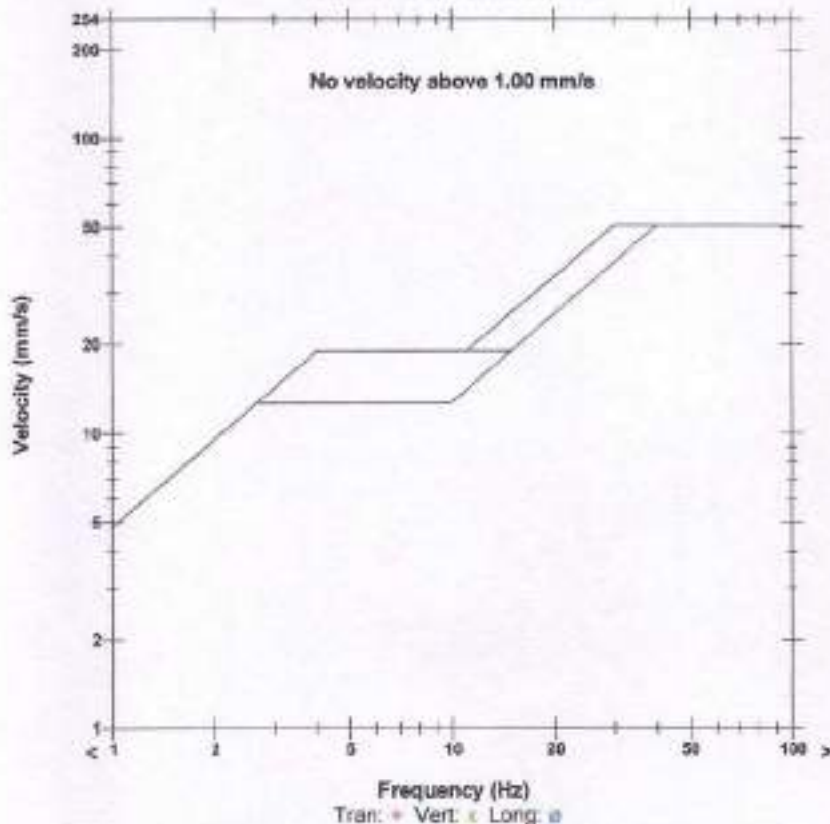
Notes
Location: LAXMI MANDAP
Client: BOLANI ORES MINES
User Name: INDIAN OIL CORPORATION LIMITED
General:

Microphone Linear Weighting
PSPL 2.312 pa.(L) at 1.231 sec
ZC Freq 13.8 Hz
Channel Test Passed (Freq = 19.7 Hz Amp = 1172 mv)

	Tran	Vert	Long	
PPV	0.378	0.434	0.520	mm/s
ZC Freq	5.1	4.8	3.0	Hz
Time (Rel. to Trig)	0.764	1.563	0.787	sec
Peak Acceleration	0.010	0.010	0.010	g
Peak Displacement	0.041	0.040	0.034	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	4.5	4.0	

Peak Vector Sum 0.582 mm/s at 0.784 sec

USBM RI8507 And OSMRE



ANNEXURE-IV

**ANALYSIS OF WATER REPORT ,ENVIRONMENTAL
MONITORING ACTIVITIES, PHOTOGRAPHS SHOWING
DIFFERENT WATER POLLUTION CONTROL
MEASURES IMPLEMENTED**



Electronic Display Board Installed at Mines Entry Gate



Collection of Water Sample from River Karo



Collection of Water Sample from Panposh Nalla Near Exit Point 5.10ML



Measurement of Ground Water level at Bolani Village



Retaining Wall and Garland Drain at Quarry-10



Retaining Wall and Garland Drain at Quarry-5



Runoff water management at Lump Loading Plant



Retaining wall and Garland Drain at Lump Loading Plant



Settling Pits along with diverting drains to Handle surface Runoff from Lump Loading Plant



ECOMEN MINING PRIVATE LIMITED
(Formerly known as Ecomen Laboratories Private Limited)
Second Floor Hall, House No. B-1/8, Sector-H, Aliganj, Lucknow - 226 024
Phone No. : 0522 - 4079201/2746282

E-mail: contactus@ecomen.in, Website: www.ecomen.in, CIN - U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

An approved Laboratory from Ministry of Environment, Forest and Climate Change & CPCB Govt. of India, New Delhi

2.6 Ground Water Level:

Format No: ECO/QS/FORMAT/01

Test Report No: ECO/BOM/GWL/04

Test Report Issue date: 05.12.2024

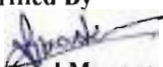
GROUND WATER LEVEL MONITORING REPORT FOR NOVEMBER 2024

1. Name of Industry : **Steel Authority of India limited,
Bolani Ore Mine ,At/P.O: Bolani , Dist. Keonjhar , Odisha**
2. Monitoring Instruments : **Piezometer**
3. Sampling Location : **Balagoda village, Bolani Gauda Basti, Bolani Basti**
4. Sample collected by : **ELPL representative in presence of Client's representative.**

Sl. No.	Name of Location	Unit	Ground Water Level (in Meter)
1.	Balagoda Village	Meter	1.15
2.	Bolani Gauda Basti	Meter	2.58
3.	Bolani Basti	Meter	1.05
4.	Dhanurjarpur	Meter	5.30
5.	Dhanurjarpur(thakurani pitha)	Meter	6.45
6.	Dhanurjarpur(gagarai sahi)	Meter	5.28

---End of Report---

Verified By


Technical Manager

Authorized By


Quality Manager



ANNEXURE-V
**MONITORING OF CONTINUOUS ONLINE NOISE
MONITORING**

AVERAGE Report - Bolani Ores Mines, M/s SAIL

From: 01 Oct 2024, 00:00 to 31 Mar 2025, 23:59

Generated on: 25 Jun 2025, 16:16

* All the times are in 24 Hours time format

Asset: DAV School BOM

Make - NA | Model - NA

Summary Data

Parameter	Avg.	Min	Min at.	Max	Max at.
Noise (dB(A))	32.95	30.00	01 Oct 2024, 00:20	56.30	14 Nov 2024, 09:20
Leq (dB(A))	38.37	30.00	06 Oct 2024, 02:20	65.30	09 Nov 2024, 11:20
Max Sound level (dB(A))	58.86	30.00	29 Nov 2024, 03:20	82.40	30 Oct 2024, 21:20
Min Sound level (dB(A))	30.05	30.00	01 Oct 2024, 00:20	41.70	01 Oct 2024, 13:20

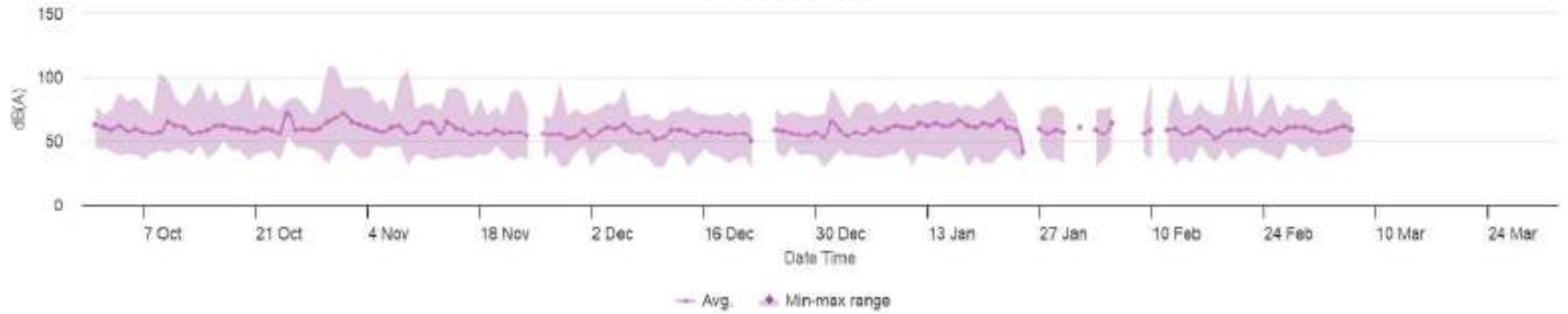
Noise



Leq



Max Sound level



Min Sound level



Detailed Data

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
07 Mar 2025	32.29	37.95	59.05	30.00
06 Mar 2025	33.32	39.24	61.72	30.00
05 Mar 2025	34.10	39.00	59.90	30.00
04 Mar 2025	33.00	38.15	58.41	30.00
03 Mar 2025	32.87	36.88	56.65	30.00
02 Mar 2025	32.03	36.97	59.33	30.00
01 Mar 2025	32.97	40.17	61.22	30.00
28 Feb 2025	34.29	38.45	61.11	30.00
27 Feb 2025	32.38	39.29	60.64	30.00
26 Feb 2025	33.85	38.87	57.10	30.00
25 Feb 2025	32.52	39.03	60.07	30.00
24 Feb 2025	31.53	35.40	54.25	30.00
23 Feb 2025	32.25	35.79	56.75	30.00
22 Feb 2025	31.05	39.30	60.03	30.00
21 Feb 2025	33.39	37.98	58.59	30.00
20 Feb 2025	32.66	38.95	59.29	30.00
19 Feb 2025	30.85	35.00	56.88	30.00
18 Feb 2025	32.75	34.42	51.89	30.00
17 Feb 2025	35.30	37.67	57.53	30.00
16 Feb 2025	33.99	38.93	60.92	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
15 Feb 2025	31.48	37.87	56.99	30.00
14 Feb 2025	33.56	36.84	55.31	30.00
13 Feb 2025	34.00	39.28	59.70	30.00
12 Feb 2025	33.33	38.05	58.87	30.00
10 Feb 2025	32.58	39.39	58.56	30.00
09 Feb 2025	31.11	36.38	56.40	30.00
05 Feb 2025	34.48	41.27	63.68	30.00
04 Feb 2025	31.49	37.10	55.58	30.00
03 Feb 2025	32.79	37.61	58.90	30.00
01 Feb 2025	33.34	39.92	60.55	30.00
31 Jan 2025	35.22	39.18		
30 Jan 2025	32.83	37.96	57.48	30.00
29 Jan 2025	32.71	39.31	59.33	30.00
28 Jan 2025	31.77	36.27	56.37	30.00
27 Jan 2025	31.22	37.29	59.68	30.00
26 Jan 2025	32.06	38.30		
25 Jan 2025	30.00	30.35	41.70	30.00
24 Jan 2025	32.56	39.28	59.49	30.00
23 Jan 2025	33.20	39.96	60.96	30.00
22 Jan 2025	39.03	46.07	66.46	30.19

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
21 Jan 2025	34.79	42.00	62.18	30.00
20 Jan 2025	34.43	42.30	63.88	30.00
19 Jan 2025	34.99	41.37	60.75	30.25
18 Jan 2025	34.49	42.25	61.86	30.36
17 Jan 2025	35.21	43.62	65.86	30.00
16 Jan 2025	35.00	41.74	62.58	30.00
15 Jan 2025	37.17	41.37	61.53	30.29
14 Jan 2025	31.90	40.85	63.85	30.00
13 Jan 2025	36.96	41.91	62.23	30.20
12 Jan 2025	34.17	41.67	64.27	30.00
11 Jan 2025	35.01	41.23	59.96	30.00
10 Jan 2025	34.92	40.43	61.29	30.00
09 Jan 2025	33.48	40.29	62.23	30.00
08 Jan 2025	33.03	39.37	60.04	30.00
07 Jan 2025	32.41	38.09	57.22	30.00
06 Jan 2025	36.18	39.03	59.75	30.00
05 Jan 2025	30.05	35.86	55.45	30.00
04 Jan 2025	31.87	36.77	57.09	30.00
03 Jan 2025	31.03	35.11	54.14	30.00
02 Jan 2025	34.38	40.45	59.15	30.16

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
01 Jan 2025	39.29	44.66	65.10	30.93
31 Dec 2024	32.24	36.04	53.08	30.00
30 Dec 2024	31.41	36.15	56.70	30.00
29 Dec 2024	32.90	35.75	53.99	30.00
28 Dec 2024	32.05	35.85	54.94	30.00
27 Dec 2024	32.41	37.96	56.40	30.00
26 Dec 2024	35.06	38.17	57.98	30.00
25 Dec 2024	38.90	42.53	58.88	30.00
24 Dec 2024	36.49	42.71		
23 Dec 2024	30.88	34.80		
22 Dec 2024	30.60	32.54	50.16	30.00
21 Dec 2024	32.62	36.82	56.48	30.00
20 Dec 2024	32.78	37.14	56.10	30.00
19 Dec 2024	33.73	37.22	54.81	30.00
18 Dec 2024	32.26	36.39	56.86	30.00
17 Dec 2024	33.84	36.70	56.79	30.00
16 Dec 2024	31.89	36.60	58.22	30.00
15 Dec 2024	30.94	35.06	54.10	30.00
14 Dec 2024	30.99	38.62	57.25	30.00
13 Dec 2024	31.61	37.63	59.32	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
12 Dec 2024	32.15	37.52	58.83	30.00
11 Dec 2024	31.91	35.66	52.79	30.00
10 Dec 2024	33.32	35.61	51.24	30.00
09 Dec 2024	33.85	37.50	58.26	30.00
08 Dec 2024	30.66	34.31	55.62	30.00
07 Dec 2024	32.41	37.06	58.37	30.00
06 Dec 2024	31.70	40.41	62.65	30.00
05 Dec 2024	33.19	37.83	59.95	30.00
04 Dec 2024	33.00	39.69	60.92	30.00
03 Dec 2024	32.42	36.61	57.66	30.00
02 Dec 2024	30.80	34.72	52.53	30.00
01 Dec 2024	31.27	35.45	58.57	30.00
30 Nov 2024	31.10	33.95	53.08	30.00
29 Nov 2024	31.00	35.06	51.77	30.00
28 Nov 2024	31.73	37.10	55.62	30.00
27 Nov 2024	33.68	36.06	55.07	30.38
26 Nov 2024	33.02	37.16	56.34	30.00
25 Nov 2024	32.69	36.41		
24 Nov 2024	30.96	34.57	54.26	30.00
23 Nov 2024	31.64	36.23	56.82	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
22 Nov 2024	32.65	38.10	57.20	30.00
21 Nov 2024	32.40	35.71	56.41	30.00
20 Nov 2024	31.79	37.34	58.92	30.00
19 Nov 2024	32.14	35.57	55.15	30.00
18 Nov 2024	33.60	37.39	57.18	30.00
17 Nov 2024	30.17	34.84	55.45	30.00
16 Nov 2024	31.85	37.78	58.82	30.00
15 Nov 2024	32.86	38.85	60.16	30.00
14 Nov 2024	38.77	44.33	64.59	30.41
13 Nov 2024	31.28	36.99	56.04	30.00
12 Nov 2024	37.74	44.90	63.68	30.38
11 Nov 2024	34.02	45.80	64.25	30.20
10 Nov 2024	31.65	35.75	57.15	30.01
09 Nov 2024	32.96	37.73	56.18	30.00
08 Nov 2024	33.20	39.41	61.81	30.09
07 Nov 2024	33.97	39.36	60.96	30.14
06 Nov 2024	32.08	37.07	57.43	30.14
05 Nov 2024	31.90	37.25	58.95	30.02
04 Nov 2024	31.45	38.84	60.70	30.09
03 Nov 2024	32.84	40.64	62.79	30.43

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
02 Nov 2024	34.06	41.95	65.01	30.12
01 Nov 2024	35.15	47.24	71.56	30.04
31 Oct 2024	34.99	43.74	67.70	30.10
30 Oct 2024	34.35	43.85	65.01	30.50
29 Oct 2024	34.55	39.15	60.46	30.28
28 Oct 2024	32.90	37.30	58.60	30.18
27 Oct 2024	33.76	37.81	59.75	30.13
26 Oct 2024	31.03	37.03	58.97	30.00
25 Oct 2024	32.65	46.57	72.41	30.00
24 Oct 2024	30.41	34.75	56.50	30.00
23 Oct 2024	32.00	37.30	58.66	30.00
22 Oct 2024	32.64	39.56	60.49	30.00
21 Oct 2024	31.48	36.28	57.19	30.00
20 Oct 2024	30.59	36.93	58.12	30.00
19 Oct 2024	31.21	39.19	60.34	30.00
18 Oct 2024	33.27	38.89	60.09	30.00
17 Oct 2024	31.24	38.34	62.48	30.00
16 Oct 2024	31.33	39.77	62.11	30.00
15 Oct 2024	33.05	37.27	58.62	30.00
14 Oct 2024	30.48	35.55	57.48	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
13 Oct 2024	31.96	35.72	56.07	30.00
12 Oct 2024	31.79	38.45	61.01	30.00
11 Oct 2024	33.75	39.61	62.16	30.00
10 Oct 2024	33.45	41.85	64.51	30.00
09 Oct 2024	32.23	37.01	56.90	30.00
08 Oct 2024	31.90	36.14	56.49	30.00
07 Oct 2024	31.85	36.84	57.23	30.00
06 Oct 2024	33.67	37.91	59.58	30.00
05 Oct 2024	33.08	37.54	57.55	30.00
04 Oct 2024	33.67	40.26	61.78	30.23
03 Oct 2024	31.66	38.48	59.43	30.00
02 Oct 2024	31.86	38.48	60.60	30.00
01 Oct 2024	36.40	41.27	63.00	31.33

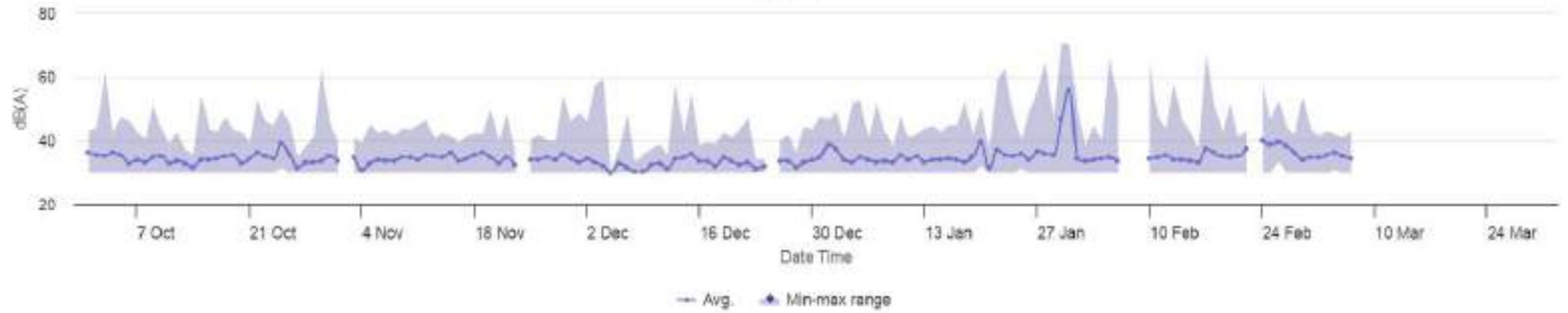
Asset: Cisl Colony BOM

Make - NA | Model - NA

Summary Data

Parameter	Avg.	Min	Min at.	Max	Max at.
Noise (dB(A))	34.65	30.00	01 Oct 2024, 02:45	52.50	30 Jan 2025, 16:50
Leq (dB(A))	38.36	30.00	20 Oct 2024, 05:45	52.00	23 Jan 2025, 10:28
Max Sound level (dB(A))	57.45	30.00	13 Dec 2024, 16:59	91.90	23 Jan 2025, 10:28
Min Sound level (dB(A))	30.65	30.00	01 Oct 2024, 00:45	35.80	30 Jan 2025, 16:50

Noise



Leq



Max Sound level



Min Sound level



Detailed Data

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
07 Mar 2025	34.28	40.22	60.62	30.91
06 Mar 2025	35.23	39.62	58.31	31.65
05 Mar 2025	36.34	39.76	58.14	31.70
04 Mar 2025	35.72	38.87	56.05	31.23
03 Mar 2025	34.63	37.84	55.43	30.57
02 Mar 2025	34.92	38.69	58.43	30.30
01 Mar 2025	33.95	38.80	58.43	30.43
28 Feb 2025	36.56	39.32	58.29	33.06
27 Feb 2025	38.31	40.35	57.08	33.72
26 Feb 2025	39.52	41.55	59.07	34.37
25 Feb 2025	38.71	41.59	60.25	34.38
24 Feb 2025	40.01	42.06	60.27	33.97
22 Feb 2025	37.68	41.96	59.32	32.42
21 Feb 2025	35.21	43.55	63.35	31.10
20 Feb 2025	35.00	40.35	59.25	30.99
19 Feb 2025	35.05	37.23	57.26	30.59
18 Feb 2025	36.36	37.78	57.77	30.74
17 Feb 2025	37.43	40.17	58.67	31.05
16 Feb 2025	33.21	36.80	55.79	30.24
15 Feb 2025	33.74	34.39	52.74	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
14 Feb 2025	34.00	36.85	57.54	30.51
13 Feb 2025	34.20	36.10	56.18	30.26
12 Feb 2025	35.49	38.63	58.88	30.54
11 Feb 2025	34.73	37.95	57.68	30.45
10 Feb 2025	34.41	40.11	61.87	30.21
06 Feb 2025	33.52	46.04	68.30	30.03
05 Feb 2025	34.69	41.86	62.87	30.12
04 Feb 2025	34.51	42.44	64.78	30.15
03 Feb 2025	34.08	42.87	64.43	30.40
02 Feb 2025	33.41	37.77	59.10	30.08
01 Feb 2025	34.43	40.22	60.51	30.11
31 Jan 2025	55.95	59.35		
30 Jan 2025	46.83	53.25	68.25	41.65
29 Jan 2025	35.73	43.79	64.87	31.20
28 Jan 2025	36.12	45.62	65.75	30.50
27 Jan 2025	36.96	51.65	74.33	30.00
26 Jan 2025	33.90	38.83		
25 Jan 2025	35.93	37.23	54.73	31.30
24 Jan 2025	35.34	39.53	59.59	30.56
23 Jan 2025	35.65	43.76	66.73	30.35

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
22 Jan 2025	37.29	42.40	62.20	30.72
21 Jan 2025	31.47	35.16	54.40	30.04
20 Jan 2025	39.41	42.37	60.24	31.23
19 Jan 2025	35.06	39.41	59.15	30.44
18 Jan 2025	33.36	36.03	55.68	30.08
17 Jan 2025	33.98	39.81	60.22	30.08
16 Jan 2025	34.24	39.63	61.88	30.10
15 Jan 2025	34.14	36.72	56.47	30.34
14 Jan 2025	34.01	38.00	57.01	30.23
13 Jan 2025	33.34	36.33	55.66	30.04
12 Jan 2025	35.06	38.20	58.45	30.08
11 Jan 2025	34.01	38.61	58.53	30.35
10 Jan 2025	35.45	40.85	62.52	30.43
09 Jan 2025	33.15	37.25	58.00	30.59
08 Jan 2025	33.60	38.05	58.18	30.30
07 Jan 2025	33.38	36.26	55.23	30.02
06 Jan 2025	34.08	36.06	55.90	30.05
05 Jan 2025	34.96	37.61	57.03	30.08
04 Jan 2025	33.18	35.84	57.58	30.09
03 Jan 2025	33.97	39.13	59.48	30.47

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
02 Jan 2025	37.45	41.28	60.86	30.84
01 Jan 2025	38.85	42.90	62.26	30.88
31 Dec 2024	34.83	39.32	60.97	30.18
30 Dec 2024	33.92	37.43	57.98	30.09
29 Dec 2024	33.13	35.59	55.64	30.06
28 Dec 2024	31.79	35.64	55.09	30.00
27 Dec 2024	33.63	37.69	57.63	30.16
26 Dec 2024	33.65	36.05	55.00	30.23
24 Dec 2024	32.04	33.20		
23 Dec 2024	31.31	35.27		
22 Dec 2024	33.01	35.74	55.12	30.04
21 Dec 2024	32.59	36.39	55.39	30.00
20 Dec 2024	33.45	36.53	56.00	30.11
19 Dec 2024	34.67	38.46	58.80	30.16
18 Dec 2024	32.07	35.16	52.83	30.14
17 Dec 2024	33.42	37.34	57.29	30.14
16 Dec 2024	33.54	36.53	56.22	30.70
15 Dec 2024	35.86	39.45	60.02	30.99
14 Dec 2024	34.61	39.40	59.08	30.97
13 Dec 2024	34.29	48.65	64.01	30.00

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
12 Dec 2024	31.04	33.92	54.27	30.00
11 Dec 2024	32.91	35.74	53.72	30.11
10 Dec 2024	32.35	34.22	52.85	30.05
09 Dec 2024	30.35	32.56	49.94	30.00
08 Dec 2024	30.23	32.70	51.45	30.00
07 Dec 2024	31.63	35.34	56.22	30.00
06 Dec 2024	32.72	34.14	55.39	30.00
05 Dec 2024	30.00	30.20	45.50	30.00
04 Dec 2024	32.08	36.77	57.00	30.00
03 Dec 2024	33.09	36.76	53.63	30.12
02 Dec 2024	34.28	37.58	54.68	30.93
01 Dec 2024	33.23	35.18	52.61	30.00
30 Nov 2024	34.42	36.10	52.43	30.72
29 Nov 2024	35.95	36.99	52.36	30.49
28 Nov 2024	34.03	37.76	56.92	30.29
27 Nov 2024	34.89	37.87	57.28	30.50
26 Nov 2024	34.20	36.50	55.40	30.28
25 Nov 2024	34.01	35.61		
23 Nov 2024	32.36	35.80	56.15	30.03
22 Nov 2024	34.94	37.20	53.90	30.53

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
21 Nov 2024	32.84	35.05	54.06	30.14
20 Nov 2024	35.00	38.03	56.57	30.54
19 Nov 2024	36.33	38.30	57.43	30.90
18 Nov 2024	35.58	38.35	56.34	30.70
17 Nov 2024	34.34	38.74	59.10	30.13
16 Nov 2024	33.54	36.77	56.99	30.21
15 Nov 2024	36.53	40.12	58.05	31.09
14 Nov 2024	34.63	37.52	56.95	30.18
13 Nov 2024	35.24	37.40	54.36	30.66
12 Nov 2024	35.42	37.50	56.47	30.80
11 Nov 2024	34.06	36.69	55.94	30.31
10 Nov 2024	34.71	36.83	55.10	30.58
09 Nov 2024	34.80	38.21	55.52	30.63
08 Nov 2024	33.73	37.05	56.70	30.35
07 Nov 2024	33.79	36.71	55.28	30.52
06 Nov 2024	34.02	36.46	54.89	30.67
05 Nov 2024	32.95	36.03	54.49	30.23
04 Nov 2024	30.70	32.78	50.42	30.00
03 Nov 2024	34.82	39.18	61.06	30.53
01 Nov 2024	33.63	38.19	60.38	30.27

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
31 Oct 2024	35.34	48.83	72.56	30.50
30 Oct 2024	33.54	37.00	53.41	30.11
29 Oct 2024	33.28	35.74	52.88	30.11
28 Oct 2024	33.03	34.43	51.35	30.41
27 Oct 2024	31.54	33.77	52.56	30.00
26 Oct 2024	35.53	38.49	56.67	31.13
25 Oct 2024	39.18	43.67	65.43	32.09
24 Oct 2024	34.42	37.60	58.84	30.23
23 Oct 2024	35.40	38.96	59.92	30.86
22 Oct 2024	36.21	37.87	56.62	30.74
21 Oct 2024	34.43	36.87	55.89	30.86
20 Oct 2024	32.85	35.81	53.98	30.34
19 Oct 2024	35.63	40.30	59.59	31.03
18 Oct 2024	35.15	36.48	54.30	30.52
17 Oct 2024	34.51	37.47	56.69	30.37
16 Oct 2024	34.07	36.22	54.17	30.52
15 Oct 2024	34.13	34.82	52.05	30.03
14 Oct 2024	31.58	34.06	52.72	30.25
13 Oct 2024	32.93	36.72	55.60	30.23
12 Oct 2024	33.76	36.15	55.08	30.22

Date & time (DD MMM, HH:mm - DD MMM YYYY, HH:mm)	Noise (dB(A))	Leq (dB(A))	Max Sound le.. (dB(A))	Min Sound le.. (dB(A))
11 Oct 2024	32.77	37.35	56.29	30.24
10 Oct 2024	35.40	41.47	61.41	30.14
09 Oct 2024	34.97	39.98	58.21	30.22
08 Oct 2024	33.17	36.35	53.13	30.39
07 Oct 2024	34.00	35.72	54.39	30.31
06 Oct 2024	32.91	36.01	55.24	30.15
05 Oct 2024	35.62	37.23	54.02	31.16
04 Oct 2024	36.43	39.48	55.60	32.19
03 Oct 2024	35.35	39.26	58.23	30.60
02 Oct 2024	35.69	37.59	52.23	31.57
01 Oct 2024	36.23	38.70	55.43	30.65