# ENVIRONMENTAL IMPACT ASSESSMENT REPORT

**for**

# EXTRACTION OF RIVERBED SAND DEPOSITION

**From**

# GAITANPUR SAND MINE (MIN_EBUR_41)

**Mouza –** Gaitanpur, **Plot No. –** Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P)**, JL No. –** 65, **District:** Purba Bardhaman, **State –** West Bengal,

**Production Capacity:** 3,18,989.01 Cu. M. of Sand (For 5 Years)

**Lease Area:** 6.51 Ha (Non – Forest)

**Screening Category:** B1

**LESSEE:**

**WEST BENGAL MINERAL DEVELOPMENT AND TRADING CORPORATION LIMITED**
**WBIIDC Building, 3rd Floor, DJ - 10, DJ Block**
**Sector – II, Bidhanagar, Kolkata – 700091**

**TOR LETTER NO.:** *EN/T-II-1/144/2024*

**SEIAA Proposal No.:** *SIA/WB/MIN/486693/2024*

**Prepared by:**


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**(Baseline Data: October, 2023 – December, 2023)**

**April 2024**

**Job No.: ENV – 22/1** **Issue: 01**

# DECLARATION BY THE APPLICANT

I do hereby declare that the EIA/EMP report in respect of **Gaitanpur Sand Mine (MIN_EBUR_41)** over an area of **6.51 Ha (16.09 Acres)** on **Damodar River** at JL No. – 65; Plot No. – 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713; Mouza – Gaitanpur; District – Purba Bardhaman, West Bengal (Proposal No. **SIA/WB/MIN/486693/2023**) has been prepared by **M/S Indian Mine Planners & Consultants**, Kolkata as per the TOR prescribed by SEIAA West Bengal vide letter No. **EN/T-II-1/144/2024 dated 14.08.2024**.

The contents (information and Data) of the report about my project is correct and true to my knowledge & Belief.

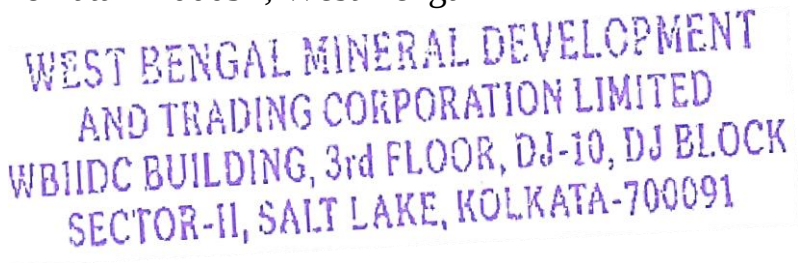


**WBMDTCL**

WBIIDC Building, 3rd Floor, DJ-10,

DJ Block, Sector II, Salt Lake City

Kolkata – 700091, West Bengal



# UNDERAKING BY THE CONSULTANT

This is to certify that we, M/s Indian Mine Planners & Consultants having NABET Accreditation no. **NABET/EIA/23-26/RA-0322** [ Sl. No. 1 (a) (i), Cat 'A'] dated April 17, 2024, have prepared in EIA/EMP report of "**Gaitanpur Sand Mine (MIN_EBUR_41)"** for extraction of **1.13** Cr. Cft. Of sand from the Subarnarekha riverbed over an area 6.51 Ha. At Mouza: Balarampur & Purunia, JL No. – 65; Plot No. – Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, P.S.: Khandaghosh, District: Purba Bardhaman on behalf of West Bengal Mineral Development & Trading Corporation Ltd. (Project Proponent) as per TOR prescribed by SEAC West Bengal vide letter No. **EN/T-II-1/144/2024 dated 14.08.2024**.

The information and data provided in the EIA/EMP report is true to its form and is verified by the respective EC & FAE's in due course of time.

Dr. N. B. Chanda
EIA Coordinator & Managing Partner
M/S Indian Mine Planners & Consultants
Date: 28.12.2023

# DECLARATION BY THE APPLICANT

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.

**EIA Coordinator:**
Name: Dr. N.B. Chanda
Signature and Date: 26.07.2023
Period of involvement: March 2023 onwards

**Functional area Experts:**

| S No 1. | Functional area | Functional Area Experts | Involvement (period and task**) | Signature & Date |
|---|---|---|---|---|
| | AP | Dr. N B Chanda | • Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards.<br>• Identification of sources of air pollution comprising dust, gaseous emission due to mining & other activities<br>• Identification of Impacts & suggestion of mitigation measures<br>Period March 2023 onwards | |
| 2. | AQ | Dr. A S Shannigrahi | • Quantification of emission particulars<br>• Air quality modeling for prediction of post project impact on the air quality of the study area<br>• Analysis of the Isopleth generated<br>• Arriving at the post project cumulative concentration at the AAQ monitoring locations<br>Period March 2023 onwards | |
| 3. | WP | Dr. N B Chanda | • Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards.<br>• Identification of Water requirement & Source<br>• Preparation of water balance diagram<br>• Identification of Water polluting sources<br>• Impact of the project on the water | |

| | | | | |
|---|---|---|---|---|
| | | | quality, both surface and groundwater<br>• Suggestion of Mitigation measures to control water pollution<br>Period March 2023 onwards | |
| 4. | SW + HW | Sanjib Chattopadhyay | • Quantification of mineral & waste from mining operation<br>• Waste disposal method evaluation<br>• Providing dump management plan<br>• Providing Surface Runoff Management Structure Requirements.<br>• Identification of Hazardous waste and its details of disposal<br>Period March 2023 onwards | |
| 5. | SE | Mrs. Nidhi Singh Rathod | • Identification of villages in the study area and finalization of demographic profile of the villages within the study area.<br>• Perusal of socio economic report done by client<br>• Validation and incorporation of relevantportions in the report.<br>Period March 2023 onwards | Nidhi Singh Rathod |
| 6 | EB | Prof. Tapan Mishra | • Perusal of existing data relevant to this project.<br>• Studying the details of flora and fauna, separately for core, buffer zone and forest area based on primary field survey.<br>• Identification of species<br>• Indicating the Schedule of the fauna present in the study area<br>• Assessment of impact on Biological environment and suggestion of mitigative measures<br>• Collecting & providing details of existing and proposed Green belt development /plantation in the core zone<br>Period March 2023 onwards | Tapan Kr. Mishra |
| 7 | HG | Debashish Ghosh | • Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures<br>• Perusal of site specific ground water table details for the core zone and the study area.<br>• Studied the hydrological aspects of surface and groundwater in study area | |

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| | | | | |
|---|---|---|---|---|
| | | | • Estimation of stage of ground water development as per CGWA norms<br>• Study about impact on the hydrology due to mining operation<br>• Suggesting mitigative measures like RWH for enhancement of ground water level<br>Period March 2023 onwards | |
| 8 | GEO | Dr. N B Chanda | • Study of geology of the ML area and the surrounding areas.<br>• Provide details about Mineralcomposition Period March 2023 onwards | |
| 9 | SC | G C Das | • Study of soil profile<br>• Fixing of Soil sampling locations and perusal of analysis results.<br>• Assessment of Impact on soil and suggesting plantation scheme.<br>March 2023 onwards | |
| 10 | NV | Sanjib Chattopadhyay | • Identification of baseline monitoring stations and study of the monitored data with respect to the applicable standards.<br>• Predict the noise level and vibration level due to proposed mining operation based on scientific evaluation.<br>• Suggesting the Mitigation measures to control noise pollution<br>• Suggesting the Mitigation measures to control ground vibration<br>Period March 2023 onwards | |
| 11 | LU | G C Das | • Collection of Remote sensing satellite data to study the land use pattern.<br>• Primary field survey and limited field verification for land categorization in thestudy area<br>• Preparation of Land use map using Satellite data of the project area separately for the core zone.<br>Period March 2023 onwards | |
| 12 | RH | Debasish Basu | • Identified Major risks involved in the project Mitigation measures suggested to avoid risk.<br>• Preparation of onsite and offsite emergency management plan.<br>Period March 2023 onwards | |

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# LIST OF ABBREVIATIONS

| ABBREVIATION | DEFINITIONS |
|---|---|
| **AAQ** | Ambient Air Quality |
| **bgl** | Below Ground Level |
| **BOD** | Biochemical Oxygen Demand |
| **COD** | Chemical Oxygen Demand |
| **CPCB** | Central Pollution Control Board |
| **CSR** | Corporate Social Responsibility |
| **dB** | Decibel |
| **DO** | Dissolved Oxygen |
| **EAC** | Expert Appraisal Committee |
| **EIA** | Environmental Impact Assessment |
| **EMC** | Environmental Management Cell |
| **EMP** | Environment Management Plan |
| **EPA** | The Environment Protection Act |
| **GLC** | Ground Level Concentration |
| **Ha** | Hectare |
| **Ham** | Hectare Meter |
| **HFL** | High Flood Level |
| **KLD** | Kilo litre Per Day |
| **Km** | Kilo Meter |
| **Leq** | Equivalent Noise Level |
| **LFL** | Low Flood Level |
| **LOS** | Level of Service |
| **MoEF** | Ministry of Environment and Forest & Climate |
| **NABET** | National Accreditation Board for Education and |
| **NGO** | Non-Governmental Organisation |
| **NH** | National Highway |
| **NOC** | No Objection Certificate |
| **OSHA** | Occupational Safety and Health Administration |
| **PCU** | Passenger Car Unit |
| **PP** | Project Proponent |
| **PM** | Particulate Matter |
| **PUC** | Pollution Under Control |
| **QCI** | Quality Council of India |
| **RL** | Reduced Level |
| **SEAC** | State Expert Appraisal Committee |
| **SPCB** | Sate Pollution Control Board |
| **TOR** | Term of Reference |

# CHAPTER – 1: INTRODUCTION

This chapter contains the general information of the proposed project such as the background of the project, the profile of the project proponent, name and contact address with e-mail, project consultants, the purpose of the project, brief description of the project, with its importance, applicable environmental regulations, objectives and methodology for EIA studies, and the scope of the EIA study.

## 1.1. Preambles

The Environmental Impact Assessment (EIA) is the management tool to ensure the Sustainable development and it is a process used to identify the environmental, social, economic impact of a project for decision making. It is a decision-making tool which guide the decision makers in taking appropriate decisions for New Project.

EIA is an assessment is to possible impact positive or negative that a proposed project may have on the environment, together consisting of the natural, social & economic aspects.

The study involves, impacts on the environment, measuring effects and proposed control measures & management to secure, healthy environment in report with public consultation and comments and then final EC grant to project to informing public about decision later on.

The Environmental Impact Assessment has been prepared to assess the current environmental scenario of the area and then based on the proposed mining activities to carry out Environmental management plan. The plan will identity and address the impacts, where these are adverse in nature and thereafter to design mitigation measures to manage such impacts in a manner as to conserve environment and ecology of the area.

As per new EIA Notification Dated 14$^{th}$ Sept. 2006 & further amendments there on. It is necessary to obtain Environmental Clearance for any new project/industry or enhancement/expansion of project/industry from MoEF&CC, Govt. of India, New Delhi.

As per the Environment Impact Assessment (EIA) notification dated 14th September 2006 and its subsequent amendments, the proposed mining project falls under Mining of Minerals 'Category B1, 1(a) as the total area is less than 100 ha. This EIA report addresses the environmental impacts of the proposed mining project and proposes the mitigation measures for the same.

## 1.2. Identification of the Project Proponent

The proposed Gaitanpur Sand Mine unit comes under Mouza – Gaitanpur, JL No.: 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal.

The mining lease area covers a total of 6.51 Ha located in Ajay Riverbed of the mine lease area. The West Bengal Mineral Development & Trading Corporation Limited (WBMDTCL) is a Govt. Undertaking company which was formed as a Company as per Companies Act 1956 on 23rd February, 1973 under the direct administrative control of Department of Large Industries & Enterprises. Accordingly, Govt. of West Bengal holds 100% paid up share capital of WBMDTC Ltd.

## 1.3. Identification of the Project Site

The proposed Gaitanpur Sand Mine unit (MIN_EBUR_41) comes under Mouza – Gaitanpur, JL No.: 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal. Geographically the ML area extends from latitude 23°13'56.932" N to 23°14'06.642" N and longitude 87°48'07.799" E to 87°48'22.839" E. The elevation of the river sand bed is 54 m AMSL. The proposed area falls in SOI top sheet No. F45D10 (73 M/16). The study area map is shown in ***figure 1.1***. The study area of the proposed project comprises 10 Km radius around the mining lease boundary. The map showing the core zone (Mine lease area) and Buffer zone (10 km radius from the lease boundary) is shown in ***figure 1.2***.

The Mine Lease area is approx. 6.19 Km of aerial distance from the district headquarters at Purba Bardhhaman. The proposed ML area can be approached by its own conveyance from NH 19, which is 3.14 Km away from the ML area on the North-East bank of Damodar River.

The Letter of Intent (LOI) for the proposed lease area was issued by the Deputy Secretary from the Department of Industry, Commerce & Enterprises, Govt. of West Bengal vide order no. 430-ICE-12011(99)/27/2022-MINES dated on 05$^{th}$ July 2023 to WBMDTCL and the copy of the same is attached as **Annexure III**.

The mining plan for Block was prepared under the Rule – 4(2) of the West Bengal Minor Mineral Concession Rule (WBMMCR) 2016 by Sanjay Kumar Pandey, Qualified Person. The mining plan for the Mine lease (ML) area has been approved by The Chef Mining Officer,

Mining Estate Branch, Court Road, P.O. - Asansol, vide letter no 266/CMO/XVI/EBUR (601) dated 27th June 2024. (**Refer Annexure 1**).

## 1.4. Brief Description of Nature, Size and Location of the Project

The proposed collection and excavation of sand from the mining lease area having an area of 6.51 Ha each comes under Mouza – Malocha, Mouza – Gaitanpur, JL No.: 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal. The life span of the proposed mine block is 5 years with an estimated production of 3,18,989.01 sand. The mining block areas are falling under dry river bed and this is not an in-stream mining and blasting is not applicable for the sand mining projects. The proposed method of mining is semi mechanized open cast mining. The details of the project proponent and project is given in Table 1.1.

***Table 1.1:*** Salient Features of the Project Site.

| S. NO. | PARAMETERS | DESCRIPTION |
|---|---|---|
| 1. | **Name of the Project** | Gaitanpur Sand Mine (MIN_EBUR_41) |
| 2. | **Mining Lease Area** | 6.51 Ha |
| 3. | **Location of the Project Site** | **Mouza:** Gaitanpur<br>**Plot No.:** 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P);<br>**J. L. No.:** 65<br>**P.S.:** Khandaghosh; **District:** Purba Bardhhaman, WB |
| 4. | **Latitude & Longitude** | **DGPS Coordinates**<br>**Latitude** — **Longitude**<br>23° 14' 01.346" N — 87° 48' 07.799" E<br>23° 14' 06.642" N — 87° 48' 10.232" E<br>23° 14' 01.642" N — 87° 48' 22.839" E<br>23° 13' 56.932" N — 87° 48' 20.083" E |
| 4. | **Toposheet Number** | 73M/16 |
| 5. | **Type of Land** | River Bed |
| 6. | **Elevation** | 54 m MSL |
| 7. | **Project Cost** | ₹ 58.35 Cr. |
| 8. | **Man Power** | 47 Personnel (Skilled & Un – Skilled Labours) |
| 9. | **Water Demand & Source** | 4.0 KLD |

| S. NO. | PARAMETERS | DESCRIPTION |
|---|---|---|
| **10.** | **Mineable Reserves** | 3,18,989.01 Cu. M |
| **11.** | **Targeted Production** | 78,825.00 Cu. M Maximum production annual |
| **13.** | **Production Capacity** | **Geological Reserve:** 3,68,825.352 Cu. M.<br>**Minable Reserve:** 3,18,989.01 Cu. M<br>**Production:** 78,825.00 Cu. M. (1st Year)<br>60,041.00 Cu. M. (2nd – 5th Year) |
| **14.** | **Type of Mining** | Opencast Semi Mechanized Method |
| **15.** | **Seismic Zone** | Seismic Zone – III (As per 1893:2002) |
| **16.** | **End Use of Product** | For construction of Buildings and Roads |
| **17.** | **Nearest Town** | Burdhaman City (6.86 Km in NE direction) |
| **18.** | **Nearest Airport** | Kazi Nazrul Islam Airport: 71 Km N-W |
| **19.** | **Nearest railway Station** | Burdhaman Junction Railway Station 6.70 km in NE |
| **20.** | **Nearest Highway** | SH – 8: 2.2 km towards South-east of Damodar River<br>NH-19: 3.14 km toward north-east of Damodar River |
| **21.** | **Nearest Sanctuary/National Park/Eco-Sensitive Zone / Conservation Reserve,** | Ballavpur Wildlife Sanctuary (51.71 Km N) |
| **22.** | **Nearest reserve forest (with name and its distance from the proposed project site)** | No part of the proposed lease area falls under forest. |
| **23.** | **Local geology of the area** | The applied lease is River bed. |

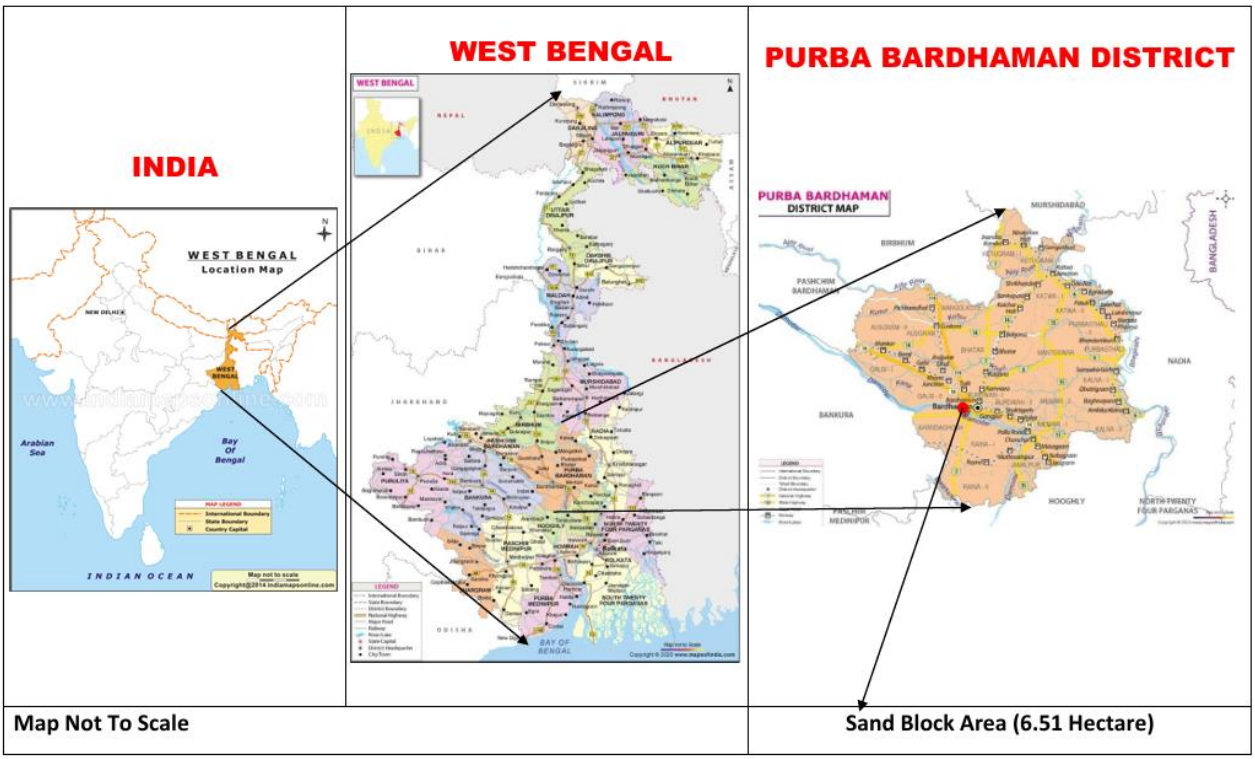



***Figure 1.1:*** Location Map of the Mining Lease Area.

## 1.5. Scope of the Study

The scope of the study includes a detailed characterization of the environment in an area of 10 Km radius of the Mine Lease Area for various environmental parameters like Ambient Air, Water, Noise, and Land, Biological and Socio-economic aspects.

## 1.6. Preparation of EIA

The EIA includes the following details:

1. Study of the reports like Geological report, Pre-Feasibility Report (PFR) or mining plan made available by the client.
2. Present Environmental Setting
3. Identification, prediction and evaluation of Anticipated Environmental Impact due to the proposed mine and related facilities.

The environmental impacts would be anticipated in core and buffer zone on:

- Topography and drainage,
- Climate,
- Water quality (Surface/Ground),
- Hydro-geological Regime,
- Air quality,
- Noise Levels,
- Soil Quality,
- Flora and Fauna,
- Traffic density survey,
- Land-Use,
- Socio-Economic Conditions,
- Habitat,
- Health, culture, human environment including public health, occupational health and safety
- Sensitive Places/Historical Monuments.

## 1.7. Compliance for Terms of References (TOR)

The project proposal was submitted to State Level Environment Impact Assessment Authority West Bengal for its appraisal. Based on which, SEAC meeting held on 10$^{th}$ July 2024 for Terms of Reference (TOR). Based on which, SEAC meeting held on 14$^{th}$ meeting held on 3.07.2024, subsequent to the discussions held on SEIAA on 06.8.2024, for Terms of Reference

(TOR). Based on the data provided, TOR of proposed Sand mining project has been issued by SEIAA, vide File no EN/T-II-1/144/2023 dated 14.08.2024 (**Refer Annexure - II)**. The compliance of TOR is described below in Table 1.2.

***Table 1.2:*** TOR Compliance

| SL. No | TOR | Compliance |
|---|---|---|
| **1.** | Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994. | This is a new Mining Project. |
| **2.** | A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given. | Copy of document in support of the fact that the Proponent is the rightful lessee of the mine is enclosed with EIA report as **Annexure III.** |
| **3.** | All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee. | All documents including mine plan, EIA are compatible with one another in terms of mine area, production levels, waste generation and its management if any, mining technology etc. All documents are in the name of the lessee. Approved mining plan enclosed as **Annexure IV.** |
| **4.** | All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ Toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area. | All coordinates of the mine area, superimposed on High Resolution Imagery / Toposheet, Topographic sheet is Presented in Chapter 1 of this EIA Report as Figure No. 1.1 and 1.2, also present in **Annexure V** (High Resolution Google Earth Image). Geology of the area is presented in Chapter 2 of this EIA report. Land Use/Land Cover analysis for mine lease and study area using remote sensing techniques has been |

| SL. No | TOR | Compliance |
|---|---|---|
| | | conducted and LU/LC map shown in is present in Chapter 3 of this EIA report. |
| **5.** | Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics. | The topographic map of the study area is not available due to involvement of International Boundary. Refer **Annexure V.** |
| **6.** | Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority. | The Letter of Intent was issued by Deputy Secretary of Department of Industry, Commerce & Enterprise, Govt. of West Bengal. |
| **7.** | It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or | Lessee is an individual owner of the mine lease however a well laid down Environment policy to take care of any infringement /deviation/ violation of the environmental or forest norms/ conditions applicable for the mine lease is proposed in the EIA report in Chapter 10. |

| SL. No | TOR | Compliance |
|---|---|---|
| | stakeholders at large, may also be detailed in the EIA Report. | |
| **8.** | Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided. | Method of mining for the sand mine is open cast semi mechanized method (No drilling and blasting involved) discussed in Chapter 2, with this EIA report. |
| **9.** | The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period. | The study area of the proposed project comprises of 10 km radius around the mining Lease boundary. Map showing study area (10km radius from the lease boundary) is given in chapter-1 of EIA Report.<br>EIA contains the data regarding proposed production for the life of mine and the same has been incorporated in Chapter-2. |
| **10.** | Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given. | The proposed mine lease area is river bed land. The study area comprises of Fallow land, Agricultural land, Water Bodies, cropland, Barren Lands, Human Settlements and other Ecological features involved. LU & LC Statistics presented. |
| **11.** | Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given. | Not applicable, as there is no overburden in the proposed Sand mining activity. No R&R involved. |

| SL. No | TOR | Compliance |
|---|---|---|
| **12.** | A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees. | The proposed mine lease area is river bank land. There is no forest/tree clearance involved in the proposed project. However, Letter of Intent for mining lease area was issued by Govt. of West Bengal, Dept. of Industry, Commerce & Tender Price, Mines Branch, vide letter no. 430-ICE-12011(99)/27/2022-MINES dated on 05th July 2023 (**Annexure-III**) |
| **13.** | Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished. | The proposed mine lease area is river bank land. There is no forest/tree clearance involved in the proposed project. However, Letter of Intent for mining lease area was issued by Govt. of West Bengal, Dept. of Industry, Commerce & Tender Price, Mines Branch, vide letter no. 430-ICE-12011(99)/27/2022-MINES dated on 05th July 2023 (**Annexure-III**). |
| **14.** | Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated. | Not applicable<br>The area does not come under tribal area, hence, "Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006" is not applicable. |
| **15.** | The vegetation in the RF / PF areas in the study area, with necessary details, should be given. | No Reserve Forest is falling within 10 km radius of the proposed mining activity. |

| SL. No | TOR | Compliance |
|---|---|---|
| **16.** | A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted. | In this proposed mining activity, there is no impact on wildlife. Biological Study for the project has been conducted. Impact and Mitigation measures are incorporated in Chapter – 4. |
| **17.** | Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished. | There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger / Elephant Reserves (existing as well as proposed) in the core area. |
| **18.** | A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary | There is no schedule – I fauna present in the study area. A detailed biological study is discussed under Chapter – 3. |

| SL. No | TOR | Compliance |
|---|---|---|
| | provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost. | |
| **19.** | Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered. | Not Applicable.<br>The proposed project does not fall within 10 Km radius of any "**Critically Polluted**" area and Also The project area does not fall in "Aravalli hill" ranges. |
| **20.** | Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management authority) | The proposed project does not fall within CRZ area. Not Applicable. |
| **21.** | R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a | There will be no resettlement or rehabilitation involved in the project area, hence compensation details are not applicable. |

| SL. No | TOR | Compliance |
|---|---|---|
| | need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report | |
| **22.** | One season (non-monsoon) [i.e., March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of | One season data of ambient air quality, water quality, noise level, metrology, soil and flora and fauna has been collected during Winter season October 2023 to December 2023. Details are given in Chapter – 3. |

| SL. No | TOR | Compliance |
|---|---|---|
| | PM 10, particularly for free silica, should be given. | |
| **23.** | Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map | The detailed air Quality modelling is provided in Chapter 4. |
| **24.** | The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated. | The daily fresh water requirement is 1.9 KLD. Water. |
| **25.** | Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided. | The total requirement of water will be 4.0 KLD, which will be met from nearby village; NOC need to be obtained from Gram Panchayat. |
| **26.** | Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided. | Water requirement will be met from the Nearby village. But later on, when the mine sump will be developed and water will get accumulated in the sumps, then ground water will be drawn only for drinking & sanitation purpose and rest of the requirement will be fulfilled from water accumulated in the mine sump, thereby conserving the natural water resources. |

| SL. No | TOR | Compliance |
|---|---|---|
| **27.** | Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided. | Mining will be done as per approved Mine Plan and applicable Rules & Regulation, so that there is no damage on ground water recharge potential due to sand mining.<br>➢ There will be no change in surface water quality as river.<br>➢ Ground water quality will not be affected due to mining activities as it is restricted to 1.40 m depth or as per the depth mentioned in the approved Mining Plan.<br>➢ The mining will not be allowed below the water table.<br>➢ Regular monitoring of water samples will be done as precautionary measures. |
| **28.** | Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished. | The proposed mining will be done well above the ground water table. Hence no adverse impact on ground water table. The hydro geological data is given in Chapter – 3. |
| **29.** | Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, | The proposed mine lease area itself is in the river bed. But there is no diversion of the any stream. Hence there is no impact on the water course. |

| SL. No | TOR | Compliance |
|---|---|---|
| | and the impact of the same on the hydrology should be brought out. | |
| **30.** | Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same. | The site is at an elevation of 57 m MSL. The slicing of the sand will be done up to 1.40 mts only. No obstruction of the water table. |
| **31.** | A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution. | Plantation programme is given in Chapter – 10. |
| **32.** | Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. | There is no major impact on local transport as 5 Trucks per day will be required for transport of mined out material from proposed project.<br>The LOS value from the proposed mine is excellent and good for all villages.<br>Traffic Management Study is mentioned in Chapter – 3. (Annexure X) |

| SL. No | TOR | Compliance |
|---|---|---|
| | Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines. | |
| **33.** | Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report | Onsite shelter and facilities will be provided to the mine workers as per Approved Mining Plan & as per Mines Rules. |
| **34.** | Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report | The propose mine is in the river bed, the reclamation of the mined – out areas will be gradually filled up with sand and gravel carried out by water, during the monsoon. Hence rehabilitation of the mined – out area is not applicable. |
| **35.** | Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed. | All safety measures prescribed under mining laws will be followed strictly. All workers will be medically examined in pre-placement phase. Periodical medical examination as per Mines Rule 1955 should be done. The persons working in dusty environment should be examined every year as per the DGMS circular No. 01 of 21.01.2010. Medical examination will be as per the medical fitness prescribed under Form P and PI of the Mines Rule 1955, amended by Mines (amendment) Rules, 1989.<br>The details of Occupational health impact of project are described under Chapter 10. |
| **36.** | Public health implications of the Project and related activities for the population in the impact zone should be systematically | The workers' health check-up will be done in every six months. |

| SL. No | TOR | Compliance |
|---|---|---|
| | evaluated and the proposed remedial measures should be detailed along with budgetary allocations. | Medical camp will be organized in impact zone Under CSR activity. |
| **37.** | Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation. | Measures of socio-economic influence to the local community have been furnished and described under Chapter – 4. |
| **38.** | Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project. | Environmental Management Plan is address in Chapter 10. |
| **39.** | Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project. | The issues and Suggestions raised during the Public Hearing has been incorporated in Chapter 7. The Minutes of the Public Hearing is also attached as **Annexure XV.** |
| **40.** | Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given. | There is no litigation against the applicant and the lease area in any court of law to the best of our knowledge. |
| **41.** | The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out. | Total Project Cost – ₹ 58.35 crores for five Years. The Cost for Environmental Protection Measures Capital Cost- ₹ 58.35 lakhs per annum. |

| SL. No | TOR | Compliance |
|---|---|---|
| **42.** | A Disaster management Plan shall be prepared and included in the EIA/EMP Report. | Disaster management Plan have been furnished. |
| **43.** | Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc. | The project proponent has proposed to provide financial assistance of 2% of project cost for the development of social infrastructure of the area. Following measure will be taken to improve the social infrastructure of the study area:<br>➢ Preventive medical care and educational facilities for rural population shall be promoted.<br>➢ Priority will be given to local people for employment. Indirect employment through contractual services shall be provided.<br>➢ Extending general benefit by way of development work in the villages through respective Gram Panchayat.<br>➢ Supplementing Govt, efforts in health monitoring camps, social welfare and various awareness programmes among the rural population.<br>➢ Assisting social forestry programme. |
| **44.** | Besides the above, the below mentioned general points are also to be followed: -<br>a) Executive Summary of the EIA/EMP Report<br>b) All documents to be properly referenced with index and continuous page numbering.<br>c) Where data are presented in the Report especially in Tables, the period in | a) Executive summary has been incorporated.<br>b) Documents have been numbered in continuation and properly referenced w.r.t. Table of Contents (Index),<br>c) The data presented in the report especially in table, along with the period in which the data was collected and the source has been incorporated.<br>d) Analysis/testing reports of water, air, soil, noise has been incorporated. |

| SL. No | TOR | Compliance |
|---|---|---|
| | which the data were collected and the sources should be indicated.<br>d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.<br>e) Where the documents provided are in a language other than English, an English translation should be provided.<br>f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.<br>g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-l 1013/4l/2006-IA. II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.<br>h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail | e) Compliance made.<br>f) The relevant questionnaire will be incorporated in the final EIA.<br>g) All instruction mentioned in O.M. No. J-11013/ 41/ 2006- IA. II (I) dated 4th August, 2009 are being complied with.<br>h) There is no change made in the basic scope and project parameter.<br>i) This is new project. Hence, not applicable.<br>j) All Surface plan, Geological cross section plan,<br>k) Conceptual plan has been incorporated EIA Report. |

| SL. No | TOR | Compliance |
|---|---|---|
| | conducting the PH again with the revised documentation.<br>i) As per the circular no. J-l 1011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.<br>j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) actions of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area. | |
| **ADDITIONAL TERMS OF REFERENCE** | | |
| **A.** | Means of access and egress between the embankment and the sand quarry may be clearly earmarked. The Project Proponent must commit that no hard toing or paving of any haulage route within the riverbed will be attempted. | Means of access and egress between the embankment and the sand quarry is submitted as **Annexure IX** (Transportation Route Map). |
| **B.** | A plan on the management and handling of sand during the period of intermediate stockpiling should be submitted. | Management and handling plan of sand is addressed in Chapter 7 of Approved Mining Plan. |
| **C.** | A progressive Greenbelt Plan may be prepared. The project area being entirely on the riverbed, afforestation/ vegetation should be attempted alongside the village roads or other public land. This may be done with | Provision has been made to plant minimum of about 1505 saplings per annum such as Babul, Acacia, Sonajhuri, Kadam, Jhau etc. or as will be specified by local forest department suitable to the available land for plantation. WBMDTCL will |

| SL. No | TOR | Compliance |
|---|---|---|
| | prior approval of the local self-governing bodies. If no public land is available for the purpose the Project Proponent shall arrange for land with his personal means. To enhance success/ survival rate the plantation shall be attempted during the first two years of the project life and the plantation so done shall be taken care of during the rest of the project life. Species of the plant selected should be self-sustaining in that particular region. | put their efforts to complete the plantation within first two years of mining operation. Since the project site is on the riverbed, WBMDTCL will seek available land status from the district level in order to take up the plantation activities. |
| **D.** | It appears that the proposed mine falls within 10 km from the periphery of a National Park/ Sanctuary/ Eco – Sensitive Zone/ Protected Area. As such the PP shall, – in compliance to the Hon'ble Supreme Court's order in I.A. No. 460 of 2004, obtaining certificate from, the Standing Committee of national Board of Wild Life (NBWL) and upload a copy of the same. | The proposed mining lease area's core and buffer zones are situated at a significant distance from the periphery of any National Park, Sanctuary, Eco-Sensitive Zone, or Protected Area. Consequently, it is determined that a NBWL (National Board for Wildlife) Certificate is not required for the proposed project. This assessment ensures compliance with relevant regulatory frameworks and underscores the project's commitment to environmental preservation. |
| **E.** | A need-based EMP may be prepared in accordance with the MoEF & CC Office Memorandum vide F. No. 22 – 65/2017. IA.III dated 30.09.2020. Record of communications made in this regard with the identified / intended beneficiaries (schools / institutions etc) may also be uploaded. | WBMDTCL is committed to make the expenses up to a maximum limit of 2% of the total project cost. WBMDTCL undertakes that, all the expenditure will be made in due consultation and recommendation of the district authorities. The main objective of this expenses shall be peripheral development and environment protection. An undertaking in this regard is being furnished in Annexure – VIII. |
| **F.** | A study report on base flow level measured at 5 points with date and supporting photographs may be submitted. It should be | The detail study report on the base flow level measurements conducted at five designated points, accompanied by respective dates and |

| SL. No | TOR | Compliance |
|---|---|---|
| | committed that mining will be done at least 1m above the base flow level. Accordingly, if required, the excavation plan may also be revised. | supporting photographs are providing in Annexure – XII. Mining will be restricted at the depth of 1.40 m only, as base flow is encountered at about 2.55 m depth. |
| **G.** | Management plan of haul road to the public road | The maintenance of Haul Roads will be conducted diligently, with water sprinkler trucks scheduled to spray water twice a day to mitigate dust pollution effectively. Furthermore, tree plantation initiatives will be implemented as per availability to further alleviate noise pollution concerns. It is important to note that the management of Haul roads has already been integrated into Chapter 7 of the Approved Mine Plan and reiterated in various sections of the Final Environmental Impact Assessment (EIA) Report. |
| **H.** | Spatial year wise progressive plantation programme. | Year wise programme for plantation has been provided as Annexure 11. |

# CHAPTER – 2: PROJECT DESCRIPTION

## 2.1. Brief Description and Nature of the Project

The project is proposed for the excavation of river bed sand from the Damodar River. The proposed project is a new minor mineral mining project. It is an opencast semi mechanized method mining project to excavate sand from the river bed.

The proposed activity of River sand mining is located at Mouza – Gaitanpur, JL No.: 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal, over an area of 6.51 Ha. The lease area falls in Survey of India Toposheet (SOI) No 73M/16. The life of mine was estimated to be 5 years.

## 2.2. Need of the Project

River channels and their flood plains are important sources of construction grade aggregate materials like sand. The durability of river-borne coarser elastics and their sorting by fluvial action make them best suitable raw materials/ingredients for building constructions. The market demand for the materials extracted from river is high throughout the country for construction of infrastructure projects.

Sand deposition at various places in river channel will hinder the flow of water flow and excess deposition of sand can changed the shape of the river bed. Because of this, during monsoon season, the water level of river may rise above the high flood level and may triggering heavy and devastating floods. Such disasters may damage large tracts of land laying on both the banks of the river especially the agricultural lands. Hence, it is necessary to remove the materials so that the river gets channelized.

Apart from this the project will also serve the following:

- Generate various employment opportunities especially to the local people hosting the mining project.
- Economic development of the state by contributing to state exchequer.

## 2.3. Location of the Project Site and Connectivity

| Sl. No. | Permanent Features | Description of the Area & Distance from the Area (Arial Distance) |
|---|---|---|
| 1. | **Project site Location** | **Mouza:** Gaitanpur,<br>**Plot No.:** 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P);<br>**J.L. No.:** 65,<br>**P.S:** Khandaghosh, **District:** Purba Bardhhaman, West Bengal. |
| 2. | **Site Coordinates (Middle Axis)** | 23° 14' 01.346" N & 87° 48' 07.799" E<br>23° 13' 56.932" N & 87° 48' 20.083" E |
| 3. | **Village/District/State** | **Mouza:** Gaitanpur<br>**District:** Purba Bardhhaman<br>**State:** West Bengal |
| 4. | **Maximum temperature** | 32˚C |
| 5. | **Minimum temperature** | 6˚C |
| 6. | **Annual rainfall (total)** | >2000 mm |
| 7. | **Plant site elevation above MSL** | Ground elevation level – 57 m AMSL |
| 8. | **Present land use at the site** | Govt. land of 6.51 ha (Riverbed) |
| 9. | **Nearest highway** | SH – 8: 2.2 km towards South-east of Damodar River<br>NH-19: 3.14 km toward north-east of Damodar River |
| 10. | **Nearest Railway Station** | Burdhaman Junction Railway Station 6.70 km in NE |
| 11. | **Nearest Airport** | Kazi Nazrul Islam Airport: 71 Km N-W |
| 12. | **Nearest major water bodies** | On the bank of Damodar River |
| 13. | **Nearest town/City** | Nearest Town & District Headquarters: Town –Burdhaman is 6.51 Km (NE) |
| 14. | **Nearest village** | Gaitanpur (0.500 Km North) |
| 15. | **Nearest Dispensary and Govt. Hospital, Educational facility** | Khandaghosh Block Primary Health center: 3.69 km (S)<br>Udaypalli Siksha Niketan High School: 0.975 km (N) |
| 16. | **Nearest Religious/Worship Places** | Manasha Mandir Temple: 1.36 (N) |
| 17. | **Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves)** | None - Within 10 km of Project Site |
| 18. | **Reserved / Protected Forests** | None - Within 10 km of Project Site |
| 19. | **Defence Installations** | None Within 10 km of Project Site |



***Figure 2.1:*** Site Photographs

## 2.4. Geomorphology of the Study Area:

Purba Bardhaman district is a flat alluvial plain area that can be divided into four prominent topographical regions. On the north, the Kanksa Ketugram Plain lies along the Ajay, which joins the Bhagirathi. The Bardhaman Plain occupies the central area of the district, with the Damodar on the south and the south-east. On the southern part is the Khandaghosh Plain. The Bhagirathi flows along the eastern boundary of the district, and the Bhagirathi Basin occupies the eastern part of the district. The undulating laterite topography of Paschim Bardhaman district extends up to Ausgram area of this district.

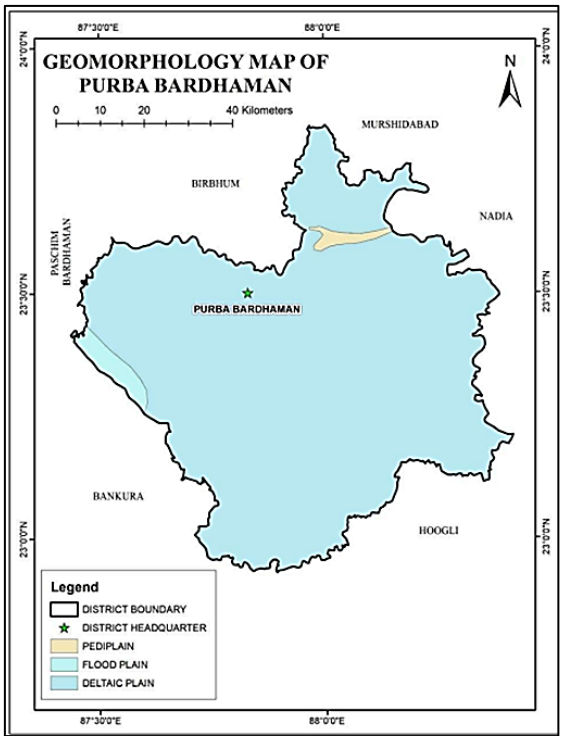



***Figure 2.2:*** Geomorphological Map, Purba Bardhaman District, West Bengal

## 2.5. Geology of the Study Area

Archaean granite gneisses and migmatites of the Chotanagpur Gneissic Complex are exposed in a narrow east-west belt fringing the north-western part and constitute the oldest basement rocks. Over these, in a faulted, subsided semi-graben type structural trough, deposited the thick bedded sedimentary sequence of Gondwana Super Group comprising sandstone, shale, siltstone with prolific commercial coal seams. All these rocks are cut across by a number of high angle, transverse, gravity faults. Mostly the Lower Gondwana sequence is developed in this district, comprising the Talchir, Barakar, Barren Measure, Raniganj and Panchet Formations. Durgapur beds constitute the youngest unit above the Panchet Formation which is considered equivalent to Mahadeva Formation of Upper Gondwana developed elsewhere. The Gondwana sequence rocks are exposed in the western part of the district area. In parts of the central and in the broad, oval area of eastern part, laterite cover with red soil and Quaternary sequence of riverine sediments grouped under Sijua, Panskura and Diara formations are exposed. The Sijua formation is mainly clay with caliche concretions; Panskura formation constitute clay alternations with silt and sand at the bottom and Diara formation comprise bedded interfingering sand, silt and clay in the present-day shifting river channel courses. Geological succession of Bardhaman district is furnished below.

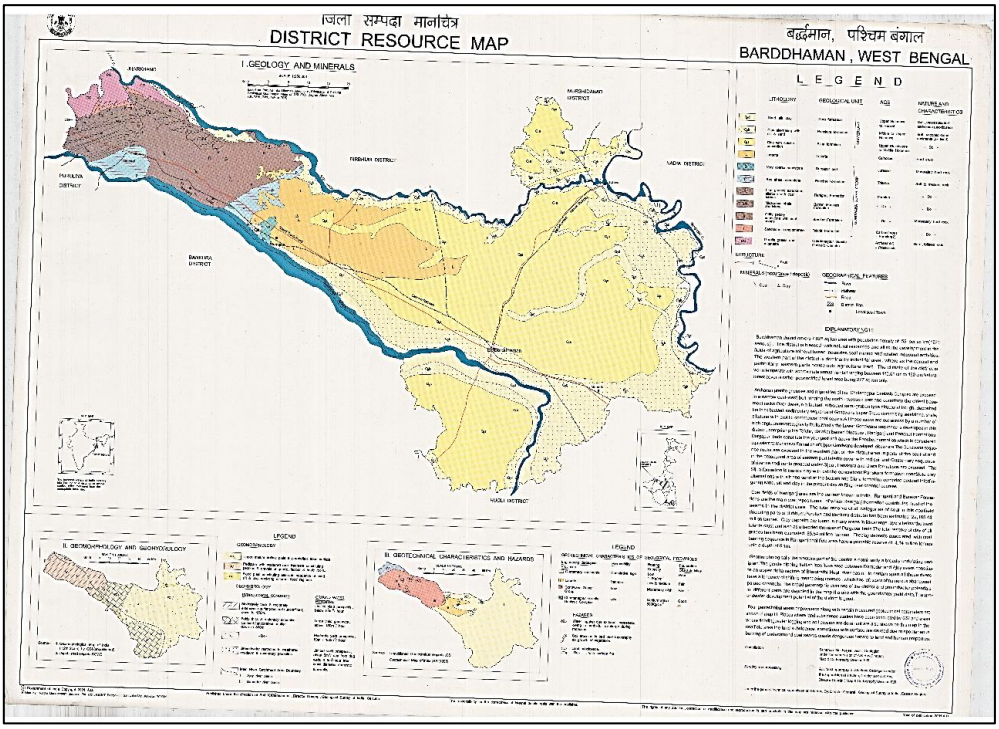



***Figure 2.3:*** Geological Map of the Purba Bardhaman District, West Bengal

***Table 2.1:*** Geological succession of the Purba Bardhaman District, West Bengal

| Lithology | Geologic Unit | Age |
|---|---|---|

| | | | |
|---|---|---|---|
| Sand, Silt, Clay | Diara Formation | Quaternary | Upper Holocene to Recent |
| Clay Alternating with Silt and Sand | Paskura Formation | | Middle to Upper Holocene |
| Clay with Caliche Aoncretion | Sijua Formation | | Upper Pleistocene to Middle Holocene |
| Laterite | Laterite | | Cainozoic |
| Very Coarse Sandstone | Durgapur Bed | Gondwana Super Group | Jurassic |
| Red Shale, Sandstone | Panchet Formation | | Triassic |
| Fine Grained Sandstone, Siltstone with Coal Seams | Raniganj Formation | | Permian |
| Micaceous Shale, Sandstone | Barren Measure Formation | | Permian |
| Gritty Pebbly Sandstone with Coal Seams | Barakar Formation | | Permian |
| Sandstone, Conglomerate | Talchir Formation | | Carboniferous Permian |
| Granite Gneiss and Migmatite | Chhotanagpur Granite Gneissic Complex | | Achaean-Proterozoic |

## 2.6. River & Drainage

The river system in Bardhaman includes the Bhagirathi-Hooghly in the east, the Ajay and its tributaries in the north and the Dwarakeswar, the Damodar and its branches in the south-west. Besides, there are innumerable Khals and old river beds all over the area.

On the north, the Kanksa Ketugram Plain lies along the Ajay, which joins the Bhagirathi. The Bardhaman Plain occupies the central area of the district, with the Damodar on the south and the south-east. The Bhagirathi flows along the eastern boundary of the district, and the Bhagirathi Basin occupies the eastern part of the district. The notable rivers and khals are Damodar, Bhagirathi, Barakar, Ajay, Dwarakeswar, Nonia, Singaram, Tamla, Kukua, Kunur, Tumuni, Khari, Banka, Chanda-kanki nala, Behula, Gangur, Brahmani, Khandesvari, Karulia nala, Dwaraka or Babla, Koiya nala, Kandarkahal, Kanadamodar, Kananadi, Ghea, Kakinadi etc.

***Ajay River:*** Ajay River originates from Batpar from Chakai block of Jamui district in Bihar. It then enters Jharkhand near Devipur (a proposed industrial area of Deoghar) and flows through Jharkhand and enters West Bengal at Simjuri, near Chittaranjan. It first forms the border between Paschim Bardhaman district and Jharkhand and then between Paschim Bardhaman

district and Birbhum district, and finally it enters Katwa subdivision of Purba Bardhaman district at Nareng village in Ketugram police station. It then joins the Bhagirathi River at Katwa Town. Total length of the Ajay is 288 kilometres (179 mi), out of which 152 kilometres (94 mi) are in West Bengal. The catchment area of Ajay River is 6,000 square kilometres (2,300 sq mi).

***Damodar River:*** The city of Bardhaman is situated on the banks of the river Damodar and acts as an anchor for this town. The river is considered to be a holy and sacred river by the aborigines of the Chotanagpur Plateau. The river Damodar originates from the Sonajuria Falls of the Bijonsa Hill which is located in the district of Palampur in Bihar. The river joins Barakar at the town of Dishergarh in the Asansol subdivision of the Bardhaman district and then flows through the rest of the district of Bardhaman. It continues to flow through the districts of Hooghly and Howrah in West Bengal before finally joining the Bhagirathi River, which is the other name for the Ganges in Murshidabad. Bardhaman takes up the shape of a delta along with the branch rivers of the Damodar surrounding it, namely Balluka, Behula, Gangur, Banka and so on, some of which have almost become extinct at present. The civilization of 'Rarh-Bangla' has also developed with this river as its centre. A bridge has been constructed over the River Damodar at Sadarghat which is known as 'Krishok Setu' (as pronounced in Bangla).

***Hoogly River:*** Bhagirathi River, river in West Bengal state, northeastern India, forming the western boundary of the Ganges-Brahmaputra delta. A distributary of the Ganges (Ganga) River, it leaves that river just northeast of Jangipur, flows south, and joins the Jalangi at Nabadwip to form the Hoogly River after a total course of 120 miles (190 km). Until the 16th century, when the Ganges shifted eastward to the Padma, the Bhagirathi formed the original bed of the Ganges. The Bhagirathi River originally flowed down the west of Nabadwip in the past, forming a natural boundary between the districts of Purba Bardhaman and Nadia. With time it has shifted its course to where it is at present, cutting the city off from the rest of the Nadia district.

***Dwarakeswar River:*** Dwarakeswar River (also known as Dhalkisor) is a major river in the western part of the Indian state of West Bengal. The river originates near Madhabpur in Purulia district and enters Bankura district near Chhatna. It cuts across the district flowing past the district headquarters and enters the southeastern tip of East Bardhaman District. It then passes through Hooghly District. The Silai joins it near Ghatal and the two together are known as Rupnarayan River, which flows into the Hooghly River near Gadiara in Howrah District. Dwarakeswar River has much sedimentation from low water (any season). In rainy seasons it

is filled up with water; then huge sedimentations are blocked the channel, even near Arambagh the channel basin reduced by garbage and anthropogenic (man made).

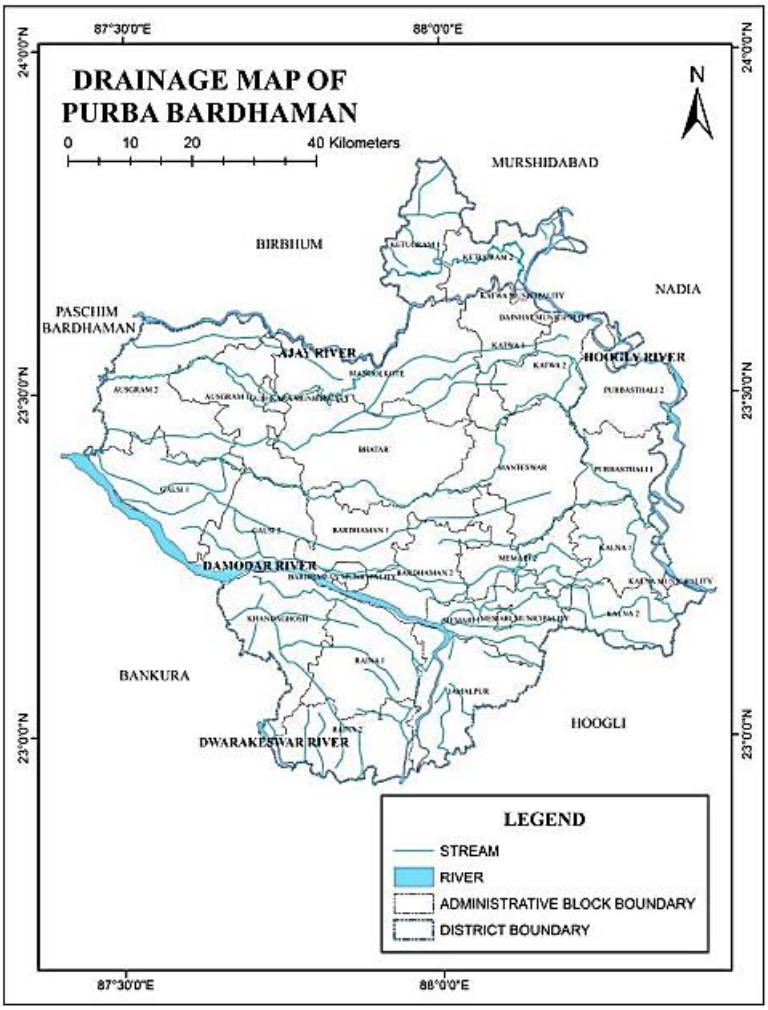



***Figure 2.4:*** The Drainage of the Purba Bardhaman District, West Bengal

## 2.7. Hydrology

Hydrological condition at a particular point is guided by topography, geology, and rainfall of the region. Central Ground Water Board (CGWB) has carried out detail hydrogeological investigation of the district. Figure 2.12 represents hydrogeological map showing the hydrogeological scenario of the district.

As per the CGWB report, In a major part of the district, ground water in thick unconsolidated Quaternaries and Tertiaries deposited under fluviatile environment, the sand and/or gravel in different proportions of this formation constitute the main aquifer and they occur down to 295 mbgl in the central and eastern part of the district. Deeper aquifers occur under semi-confined to confined condition. Groundwater in the western part of Upper- Palaeozoic- Mesozoic- Tertiary sequences of Gondwana Supergroup of sedimentaries occur under both unconfined and confined conditions down

to 150.35 mbgl. Groundwater in the extreme northwestern small part of Salanpur Block occupied by the Archaean metamorphics occurs down to a depth of about 82 mbgl under both unconfined and confined conditions down to 150.35 mbgl. It mainly occurs under unconfined condition in the dug well zone and under semi confined to confined condition in the deeper horizons. In Bardhaman district, ground water occurs in semi-confined to confined aquifer conditions in the depth span of 12.00-38.00 mbgl, 31.00-55.00 mbgl and 70.00-88.00 mbgl. (*http://wbwridd.gov.in/swid/mapimages/PURBA BARDHAMAN.pdf*).

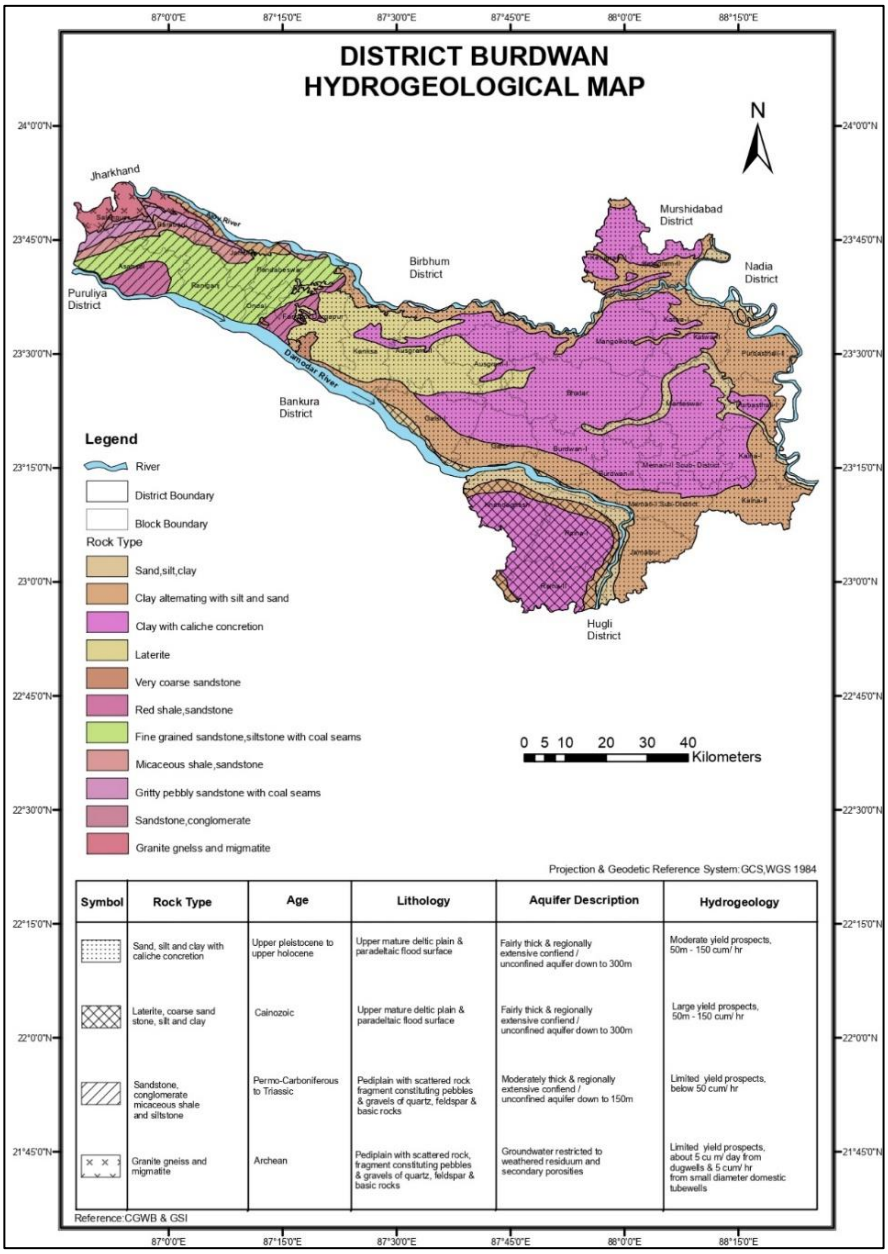



***Figure 2.5:*** Hydrogeological map of the Study area in Purba Bardhaman District, West Bengal

## 2.8. Soil Type

Different types of soil are encountered in different topographical biological and hydrological as well as geological condition within the Bardhaman district. In the west coarse gritty soil

blended with rock fragments is formed from the weathering of pegmatites, quartz veins and conglomeratic sandstones, whereas sandy soil characteristic of granitic rocks and sandstones. This soil is of reddish colour, medium to coarse in texture, acidic in reaction, low in nitrogen, calcium, phosphate and other plant nutrients. Water holding capacity of this soil increases with depth as well as with the increase of clay portions. Towards the east alluvial soil attains an enormous thickness in the low-level plains to the east. This alluvial soil is formed of alluvium brought down by the Ajay, Ajay, Bhagirathi and numerous other rivers. These soils are sandy, well drained and slightly acidic in nature. Depending upon the soil Bardhaman district is divided into three separated zones: -

i. Gangetic soil, which is found along the Ganga River.

ii. Vindhyan soil, between Ajay and Ajay Rivers in the central and eastern parts.

iii. Red soils, occurring in the undulgating and coal field areas in the western parts of the district.

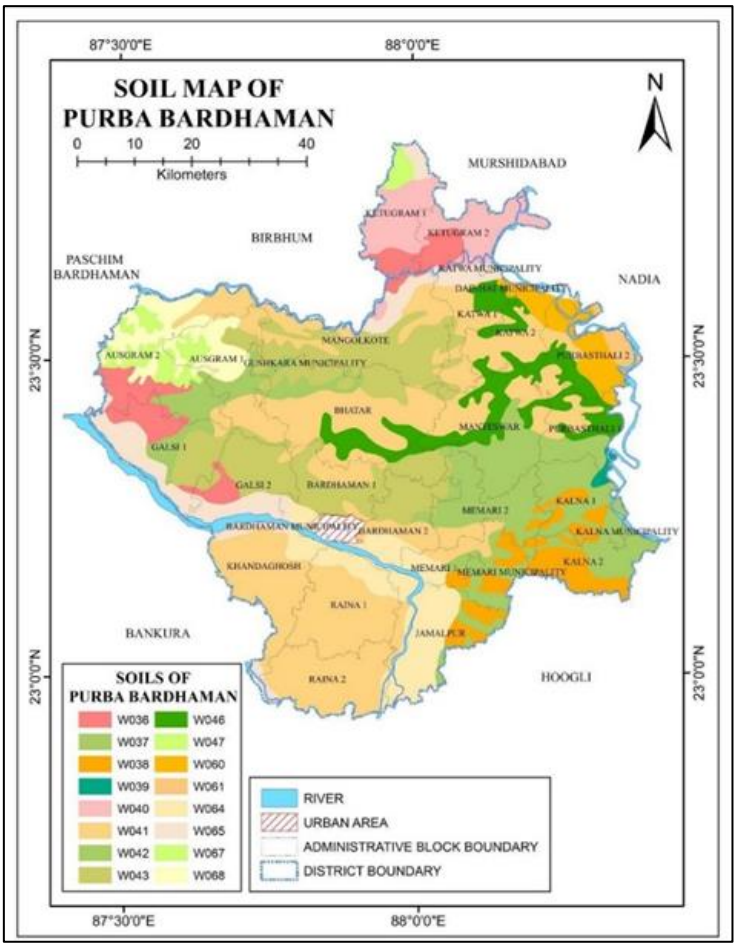



***Figure 2.1:*** Soil Map, Purba Bardhaman District, West Bengal

## 2.9. Climate and Rainfall across the District

Purba Bardhaman district has a tropical climate – hot and humid. While the hottest month is May, the coldest is January. The monsoon season is from June to September, with an annual

average rainfall of 1,400 mm, 75% of it falling in the monsoon months. Localised thunderstorms, called kalbaisakhi in Bengali, are a special feature from March until the monsoon sets in. The cold season starts from about the middle of November and continues till the end of February. March to May is dry summer intervened by tropical cyclones and storms. June to September is wet summer while October and November are autumn.

***Rainfall:*** The average annual rainfall in the district is 1400mm. The variation in the annual rainfall within the district and from year to year are not large. The Rainfall during the monsoon season-June to September-constitutes 75 percent of the annual rainfall; July and August are the rainiest months.

The information on annual rainfall for the five years from 2016 to 2020 for the district is given in table 2.2 Annual rainfall (in mm) recorded in Purba Bardhhaman District and graphically in figure.

***Table 2.2:*** Annual rainfall (in mm) recorded in Purba Bardhhaman District

| Month | 2016 | 2017 | 2018 | 2019 | 2020 | Average |
|---|---|---|---|---|---|---|
| **Jan** | 13.50 | 1.20 | 0.00 | 0.00 | 26.60 | 41.30 |
| **Feb** | 29.30 | 0.00 | 0.10 | 64.00 | 1.10 | 94.50 |
| **Mar** | 15.00 | 32.60 | 15.10 | 16.30 | 64.60 | 143.60 |
| **Apr** | 0.00 | 28.30 | 82.60 | 47.80 | 65.80 | 224.50 |
| **May** | 120.00 | 171.20 | 43.50 | 129.90 | 212.0 | 676.60 |
| **June** | 182.50 | 255.80 | 158.10 | 90.90 | 298.40 | 985.70 |
| **July** | 263.90 | 464.10 | 329.70 | 195.80 | 338.20 | 1591.70 |
| **Aug** | 463.50 | 252.90 | 174.7 | 233.10 | 262.20 | 1386.40 |
| **Sep** | 274.50 | 178.20 | 154.30 | 215.80 | 128.20 | 951.00 |
| **Oct** | 44.30 | 260.10 | 16.00 | 191.70 | 81.00 | 593.10 |
| **Nov** | 1.90 | 14.50 | 0.00 | 16.80 | 1.70 | 34.90 |
| **Dec** | 0.00 | 9.10 | 26.70 | 11.10 | 0.00 | 46.90 |
| **Yearly Total** | 1408.40 | 1668.00 | 1000.80 | 1213.20 | 1479.80 | 6770.20 |
| *Source: Website of Indian Meteorological Department, Govt. of India* | | | | | | |

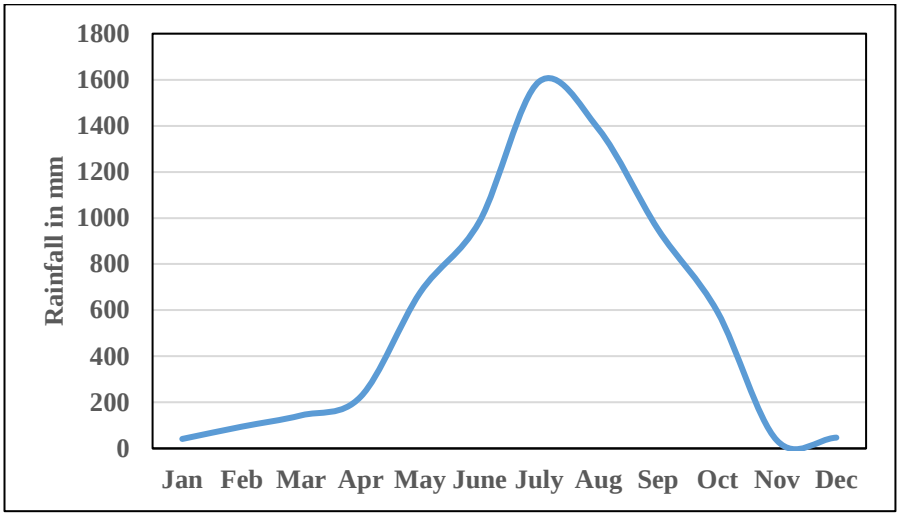



***Figure 2.2:*** Annual Rainfall Data of the Purba Bardhaman District, West Bengal (*Source: IMD Database*)

***Summer:*** Purba Bardhaman district experiences dry and hot summer with maximum temperature of near about 40°C during summer. The district shows a fierce dry heat in the warmer months. The summers in Purba Bardhaman usually start from month of March and last till the middle of June.

***Winter:*** Winters in Paschim Bardhaman are pleasant and enjoyable, with mercury dropping to about 14°C or below. The winter starts from December and last till the month of February. The maximum and minimum relative humidity of the district during summer season varies from 75% to 85% and 40% to 60% respectively. In winter time district's humidity varies from maximum 80% to 90% and minimum 30% to 55%. The average maximum and minimum temperature recorded is given in Table 2.3

***Table 2.3:*** Monthly mean temperature (in °C) distribution of the Purba Pardhaman.

| Month | Min Temp (°C) | Max Temp (°C) | Mean Temp (°C) |
|---|---|---|---|
| **JAN** | 10 | 24 | 17 |
| **FEB** | 13 | 28 | 20.5 |
| **MAR** | 18 | 32 | 25 |
| **APR** | 22 | 38 | 30 |
| **MAY** | 23 | 36 | 29.5 |
| **JUN** | 25 | 34 | 29.5 |
| **JUL** | 24 | 32 | 28 |
| **AUG** | 24 | 32 | 28 |
| **SEPT** | 22 | 32 | 27 |
| **OCT** | 20 | 31 | 25.5 |
| **NOV** | 13 | 29 | 21 |
| **DEC** | 10 | 26 | 18 |

## 2.10. Seismicity of the Study Area

The seismic hazard map of India was updated in 2000 (Figure 2-14) by the Bureau of Indian Standards (BIS). There are no major changes in the zones in West Bengal with the exception of the merging of Zones I and II of the 1984 BIS map. Western sections of the northern districts of Jalpaiguri and Coochbehar lie in Zone V. The remaining parts of these two districts, along with the districts of Darjeeling, Uttar Dinajpur, Dakshin Dinajpur, Maldah, 24 North Parganas and 24 South Parganas lie in Zone IV. The rest of the state along with the city of Kolkata lies in Zone III. Purba Bardhaman district is categorized under seismically active zone- III i.e. moderate seismic intensity zone. Bureau of Indian Standards, based on the past seismic history, grouped the country into four seismic zones, viz. Zone - II, Zone –III, Zone-IV and Zone-V. Of these, Zone V is the most seismically active region, while Zone II is the least.

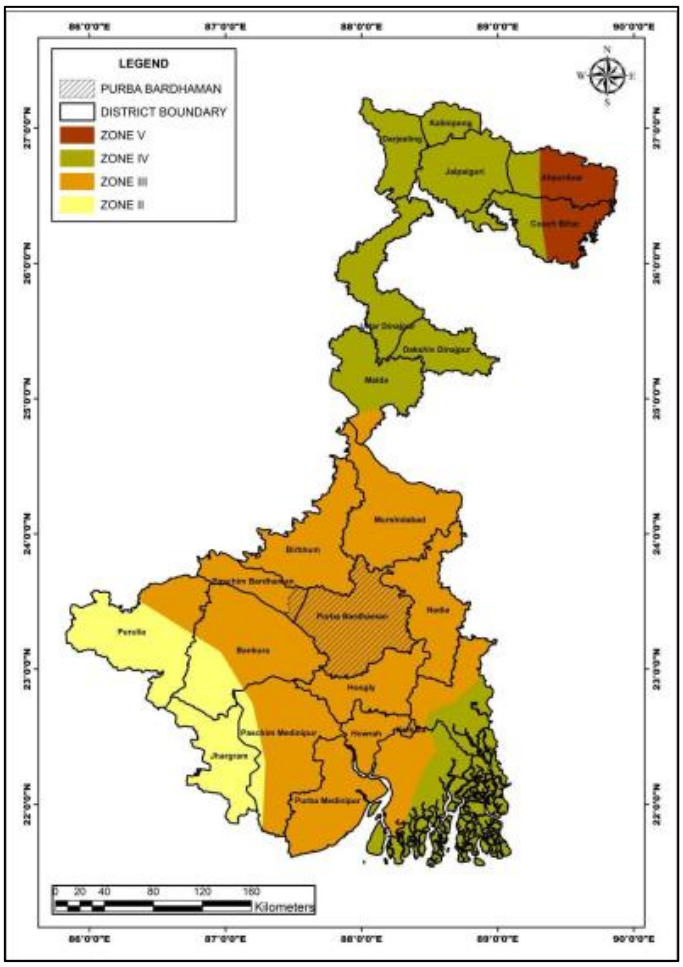



***Figure 2.8:*** Seismic Map of the State of West Bengals (*Source: Amateur Seismic Centre (ASC), Pune, 2022*)

## 2.11. Reserve Estimation for Riverbed Deposits

The proposed project is river bed mining project, so entire deposit lies within the river bed area. As per Approved District Survey Report of Purba Bardhaman, maximum permissible depth of mining in Damodar River is upto 2.70 m. But here, during auger drilling baseflow is

encountered at about 2.45 m depth for that reason ultimate depth of mining is considered upto 1.40 m depth only [As per "Sustainable Sand Mining Management Guidelines 2016 (Page 74, Rule 12); Ultimate working depth shall be not less than one meter from the water level of the River channel"; here it is considered as (2.45 m – 1.40 m) = 1.05 m from the water level of the River channel which is more than one metre]. The measurement of Geological reserve is estimated by the actual measurement of average mineable area of the Lease area by multiplying with the thickness of available sand deposit i.e. 1.40 metres. All the quantity estimated are under proved category as per UNFC, 2012.

***Geological reserve:*** According to the Ministry of Environment and Forest (MOEF), Government of India, Sustainable Sand Mining Management Guidelines - 2016 and West Bengal Minor Mineral Concession Rules, 2016, mining of river bed sand is restricted to 3m depth of the river bed. But, in the present scenario, the geological reserve of Sand is estimated only up to the depth of 1.40 m only (as baseflow is encountered at about 2.45 m depth).

Area – **65,100 $m^2$**, Depth – **1.40 m**,
Geological Volume of Reserve = Area X Depth = **65,100 $m^2$ X 1.40 m = 91,140.00 $m^3$**.

***Mineral Blockage:***

I. ***Reserved Volume Blocked in Mine Limit (For Safety Zone):*** 7.5 m wide peripheral belt for safety zone around the Mine boundary of the mining area (according to MMR, 1961) has been blocked for mining which is: **8,065 $m^2$**.

   So, total volume of reserve blocked within safety zone (up to 1.70 m depth) is (**8,065 $m^2$ X 1.40 m) = 11,291.00 $m^3$**.

II. ***Reserved Volume Blocked for Other Blockage Area (Slope in the Boundary Area):*** On an average distance between the river banks is 900m and 1/3 rd of the distance between the river bank lines are about 300 m distance from the river bank line. Here 1/3 rd of the distance between the bank lines is not considered as 300m distance from river bank line is less than 300m. Here 100m distance from riverbank line does not cross the safety zone of the lease area. Slope will be maintained 45°. Present day river water flow does not cross any portion of the Lease area.

   So, total volume of reserved for Other Blockage Area (Slope in the Boundary Area) is **= (1,044.90 m X 1.40 m X 1.40 m X 0.50) = 1,024.00 $m^3$**.

   Total Blocked Volume of Reserve (i + ii)
   **= (11,291.00 $m^3$ + 1,024.00 $m^3$) = 12,315.00 $m^3$**.

***Mineable Reserve:***

Geological Volume of Reserve = **91,140.00 $m^3$**.

Blocked Volume of Reserve = **12,315.00 $m^3$**.

Mineable Volume of Reserve

= (Geological Volume of Reserve – Blocked Volume of Reserve)

= **(91,140 $m^3$– 12,315 $m^3$) = 78,825 $m^3$**.

***Table 2.3:*** Considerations for Resource & Reserve Calculation of the Lease Area

| **Total Area (in $m^2$)** | **Depth (in m)** | **Geological Volume of Reserve (in $m^3$)** | **Volume Blocked in 7.5 m Mine Limit (in $m^3$)** | **Volume Blocked Volume of Reserve for Slope in the Boundary Area (in $m^3$)** | **Total Blocked Volume of Reserve (in $m^3$ )** | **Mineable Volume of Reserve (in $m^3$ )** |
|---|---|---|---|---|---|---|
| 65,100 | 1.40 | 91,140 | 11,291 | 1,024 | 12,315 | 78,825 |

*Table 2.4:* Geological Reserve of the Lease Area.

| **Year** | **Total Volume of the Area (Cum)** | **Replenishment Rate (%)** | **Geological Resource (Cum)** |
|---|---|---|---|
| 1 | 91,140 | 100 | 91,140.00 |
| 2 | 91,140 | 76.17 | 69,421.338 |
| 3 | 91,140 | 76.17 | 69,421.338 |
| 4 | 91,140 | 76.17 | 69,421.338 |
| 5 | 91,140 | 76.17 | 69,421.338 |
| **Total Geological Resource** | | | **3,68,825.352** |

As per the MoEF&CC Guidelines we have to consider a Safety Zone in order to move forward with our mining activities in the allotted lease area, considering an annual replenishment rate of 76.17%. As the river bed sand extraction will be done through single bench of 1.40 m height, the whole material is mineable. Replenishment rate of Subarnarekha River bed deposits is 76.17% (as per District Survey Report) and the mineable reserve has been estimated based on 76.17% replenishment rate from second year. So, in the 1st year depth of mining will be 1.40 m and from 2nd year to 5th year depth of mining will be (1.40 X 0.7617) = 1.06638m.

***Table 2.5:*** Minable Reserve of the Sand Deposit.

| Year | Total Volume Inside 7.5 m Berm after maintaining 45° slope (Cum) | Replenishment Rate (%) | Mineable Reserve (Cum) | Annual Production (Cum) |
|---|---|---|---|---|
| **1** | **78,825** | **100** | **78,825.00** | **78,825.00** |
| **2** | **78,825** | **76.17** | **60,041.0025** | **60,041.0025** |
| **3** | **78,825** | **76.17** | **60,041.0025** | **60,041.0025** |
| **4** | **78,825** | **76.17** | **60,041.0025** | **60,041.0025** |
| **5** | **78,825** | **76.17** | **60,041.0025** | **60,041.0025** |
| **Total Mineable Reserve** | | | **3,18,989.01** | **3,18,989.01** |

Note: Tables in the previous page are in-situ figures. Actual figures of sand production may be correlated in accordance with in-situ density and bulk density of produced sand. Depth and volume of mining has been reduced from second year onward in order to depict the replenishment rate. Since Replenishment is a dynamic process, the depth of mining at any point of time may be considered at higher level based on published replenishment rate but limited to maximum of 3m (According to the Ministry of Environment and Forest (MOEF), Government of India, Sustainable Sand Mining Management Guidelines - 2016 and West Bengal Minor Mineral Concession Rules, 2016, mining of river bed sand is restricted to 3m depth of the river bed or ground water level only, whichever is less). Here, as baseflow is encountered at about 2.45 m depth, ultimate depth of mining is considered upto 1.40 m depth only.

In the 1st year depth of mining will be 1.40 m and from 2nd year to 5th year depth of mining will be (1.40 X 0.7617) = 1.06638 m. Extraction/ collection work of river sand is usually carried out for eight months in a year. The work remains suspended for the rest four months of the year due to seasonal monsoon rainfall and other related problems. Therefore, considering the number of working days in a month to be 25 days and 8 hours per day. So, the total working days in a year would be = (25 X 8) = 200 days.

Considering 240 working days annually, barring the monsoon season, maximum production will be = (78,825.00 cum / 240) = 328.4375 Cu m per day of the river bed material. The maximum annual production capacity of this mine is 78,825.00 Cu m sand.

Considering the carrying capacity of the trucks/ dumpers to be deployed is of average 5 $m^3$ (10 Ton), the total no. of trips to be made by the dumpers/trucks would be about = (328.4375/ 5) $m^3 \cong$ 66 trips per day.

However, the Competent Authority may prescribe the quantity of sand to be extracted by the Mining Contract Holder as per the terms and conditions of the contract taking into account the impact on the ecology and environment of the surrounding areas. However, the quantity of sand allotted for extraction under the Mining Contract will be within the mineable reserve of sand available per year as depicted above.

***Method of Mining:*** Presently the said mine is working with the conventional open cast with bench system method with the semi mechanized mode of operation. Based on the mode and method so adopted and taking into the consideration of geological parameters of the sand body, the mining pit is designed such that the height of the bench is kept at about 1.40 meters maximum and maintains 45$^{o}$pit slope. However, only 1.40 m benches have been considered for present mining.

- Mode of operation (mining) is a manual open cast supplemented with semi- mechanised operation
- Extraction of sand will be done by both manual labours and small capacity machineries like excavators and tractors for excavation and transportation of the excavated sand.
- The extracted sand will be temporarily stored in the stacking area which then further will be transported to the desired location as per MDO.
- The bench height will be 1m, at final stage the slope of the bench will be maintaining 45° slope
- Loading of excavated and sorted sand materials into tippers with the help of manual mode or by small capacity excavator.

***Progressive Mine Closure Plan:*** The "West Bengal Minor Mineral Concession Rule 2016" dated 29th July 2016 has made it mandatory to incorporate "Progressive Mine Closure Plan" in Mining Plan (Approved Mine Plan, Chapter III, page no. 436).

The Damodar River is a meandering perennial river and therefore during the monsoon season, considerable amount of mineral (Sand) is transported by the flow of river water. This mining contract is for river bed sand only. The sand is to be extracted from the provided lease in a specific method as discussed in previous sections. The voids created because of this mining will get filled gradually with the sediments carried by the river flow and would be replenished every year. This process of replenishment is slow in the dry season due to lack of rainfall. The restoration of this riverbed to its original position through natural process is more congenial to the aqua-marine environment than the reclamation with earth/silt etc. brought from elsewhere. Since the river will regain its original position through natural process after closure of the mine

on expiry of the contract period, a progressive mine closure plan would not be necessary in this case.

***Reasons for closure:*** The progressive mine closure plan has been prepared in compliance with West Bengal Minor Mineral Concession Rules 2016 under MMDR Act 1957. No immediate closure is planned as sufficient reserves are available to carry on the activities. There is market potential in domestic demands.

***Statutory Obligations:*** The lessee is bound to submit the progressive mine closure plan either with Mining plan or Scheme of Mining. Lessee is bound to follow the terms and conditions as will be stipulated in the lease deed. In addition to it the rules pertaining to the Protection of Environment i.e., Environment Protection Act. Environment Rules and other associated rules for the protection of environment will have to be followed. All other rules pertaining to the mining existing at that time will be followed during the course of mining activities. ***Machinery Requirements:*** The proposed mining activity in Damodar riverbed will be strictly restricted to manual opencast method of mining. Involvement of any heave machineries are strictly not advisable. The table 2.3 shows the list of machineries that are advisable in the mining contract area.

***Table 2.2:*** List of Machineries involved in MLA.

| S.No. | Type of Machinery | Number | Fuel Consumption per hour (Litres) per machine |
|---|---|---|---|
| **1.** | Excavator | 5 | 50 |
| **2.** | Tipper Truck | 15 | 45 |
| **3.** | Water Sprinkler Truck | 2 | 6 |



***Figure 2.9:*** Proposed Road connecting the Mining Lease Area

***Proposed Manpower:*** There is no permanent influx of the population anticipated, as the workers will be hired locally from nearby villages. Unemployment is very pervasive in the study area. The project will provide employment in the study area to approximately 14 & 30 semi-skilled and Unskilled laborers from local people directly and 1 persons indirectly including Mines Manager, in the project. It is expected that a large part of the investment in this project will be direct / indirect role on local population. Hence there will be an overall improvement of socio – economic status of the people of surrounding areas.

## 2.12. Project Cost

The total cost of project would be approx. 58.35 crores for 5 Year. There is budgetary provision that 5 % of project cost will be allocated for Environmental Management Plan and 2 % of the project cost will be allocated for Corporate Environmental Responsibility and 2% Health and Hygiene for causes of poor people of nearby villages. Health and Hygiene will be allocated for health check – up once in six months. Extra budgetary provisions will be allocated to lady workers.

***Table 2.8:*** Split Up of Project Cost of Gaitanpur Sand Mine (*MIN_EBUR_41*).

| Sl. No | Description | Rate | Amount (in Rupees) |
|---|---|---|---|
| **1.** | Premium Charges of 1,12,65,001 cft (3,18,989.01 Cubic Meter) sand material | ₹ 48.10 / cft | 54,18,46,548.10 /- |
| **2.** | Royalty (including Cess, DMF, GST etc) of 1,12,65,001 cft (3,18,989.01 Cubic Meter) sand material | ₹ 3.60/ cft | 4,05,54,003 /- |
| **3.** | Miscellaneous (Temporary Labour room, Temporary Toilet etc) | | 10,99,448 /- |
| **Total (₹)** | | | 58,35,00,000/- |

# CHAPTER – 3: DESCRIPTION OF THE ENVIRONMENT

## 3.1. General

This chapter provides the description of the existing environmental status of the study area with reference to the environmental attributes like land, air, noise, water, biological and socio-economic status. The study area covers the area falling within 10 km radius from the boundary of the project area. One time baseline monitoring was conducted for the study. Google image of 10 km study area of the project site is given in Figure 3.1.

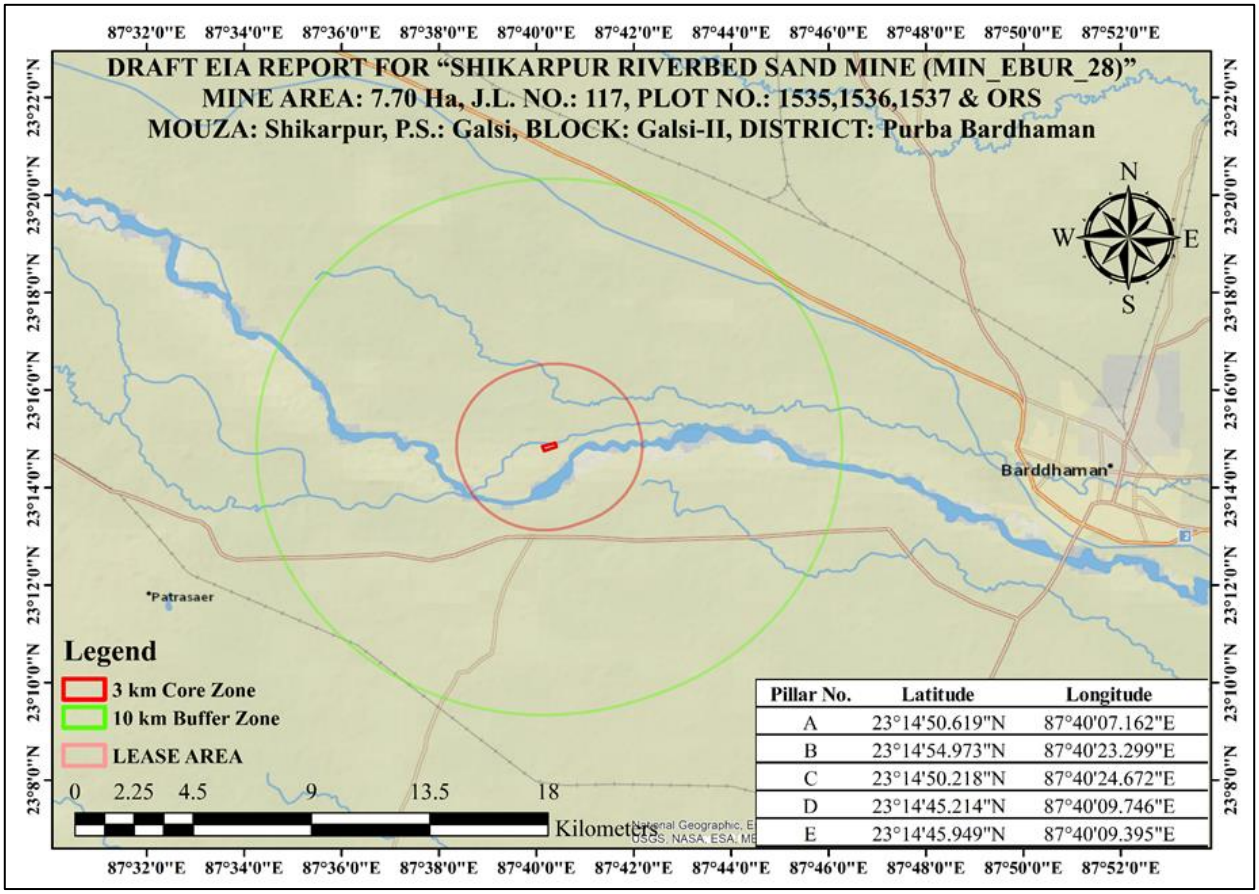



***Figure 3.1:*** The map showing the core zone (Mine lease area) and Buffer zone.

## 3.2. Methodology

The methodology for conducting the baseline environmental survey is based on the Standard Terms of reference issued by MoEF&CC for non-coal mining projects. Baseline information with respect to air, noise, land and water quality in the study has been collected by primary sampling/field studies during the study period. Baseline status of the biological and socio-economic environment were also studied.

Baseline data has been collected out during the Summer Season (October, 2023 to December, 2023) by INDICATIVE CONSULTANT INDIA [NABL Accredited Lab, Certificate No. TC – 11628] in accordance with the Guidelines for EIA issued by the Ministry of Environment Forests and Climate Change, Govt. of India and CPCB, New Delhi. Team of Experts visited the study area for Social & Biological Environment study. The following attributes shown in the Table 3.1 below are gathered by M/s Indian Mine Planners and Consultants, Kolkata through field investigations regarding the preparation of EIA/EMP for the proposed mining area with related facilities.

***Table 3.1:*** Salient Features of Baseline Environmental Studies.

| Attribute | Parameter | Frequency of Monitoring |
|---|---|---|
| Micro – Meteorological Studies | Wind Details like speed, direction, Temperature, Relative Humidity and Rainfall | 3 months data has been collected to assess Air Pollution impacts on the surrounding environment. |
| Ambient Air Quality | $PM_{10}$, $PM_{2.5}$, Sulphur Dioxide ($SO_2$), Oxides of Nitrogen ($NO_X$) | 3 months data has been collected to assess baseline Air Quality status of the area. |
| Noise Quality Data | Noise levels | 1 middle month data has been collected to identify noise producing areas. |
| Water Quality, Soil Quality Data and Land Use pattern | Physical & Chemical parameters along with Measurement of heavy metals and land use parameters. | To establish baseline Water Quality, Soil Quality for future reference and Land Use Pattern in the area. |
| Socio – Economic & Demographic Studies | Socio – Economic parameter | To know the present Socio-Economic status of the study area. |

## 3.3. Land Use / Land Cover of the Study Area

### 3.3.1. Introduction

Remote sensing is the science of acquiring information about the Earth's surface without actually being in contact with it. This is done by sensing and recording reflected or emitted energy and processing, analysing, and applying that information. Satellite remote sensing technology has found its acceptance worldwide for rapid resource assessment and monitoring. Satellite images have been utilized for land use and land cover mapping. Land use/land cover data refers to data that is a result of classifying raw satellite data into "land use and land cover" (LULC) categories based on the return value of the satellite image. The term "land use" (LU) relates to the human activity or economic function associated witha specific piece of land,

whereas the term "land cover" (LC) relates to the type of feature present on the surface of the earth. The study area is considered as 10 km from the project site Galsi-II Block in Purba Bardhhaman District of West Bengal.

### 3.3.2. Objectives

→ Delineation of Land use/ Land cover categories for the whole study area.

→ Generation dB Af digital cartographic database using secondary data sources

### 3.3.3. Site Inspection and Data Interpretation

A recognition analysis to obtain a broad understanding of the area of analysis was undertaken. In order to evaluate the accessibility of the area as well as the trend and the distribution of vegetation and its composition, knowledge on current field conditions was important. Ground validation means the creation of a link between detected, labelled, identified and satellite imagery objects and objects. In satellite imagery for identification, it correlated the presence of a certain species of plants on the ground with its tonality. The figure 3.3 below shows the land use land cover of the study area based on our detailed site inspection. The study area covers a vast majority of Agricultural Land, Built up area as shown in Table 3.2.

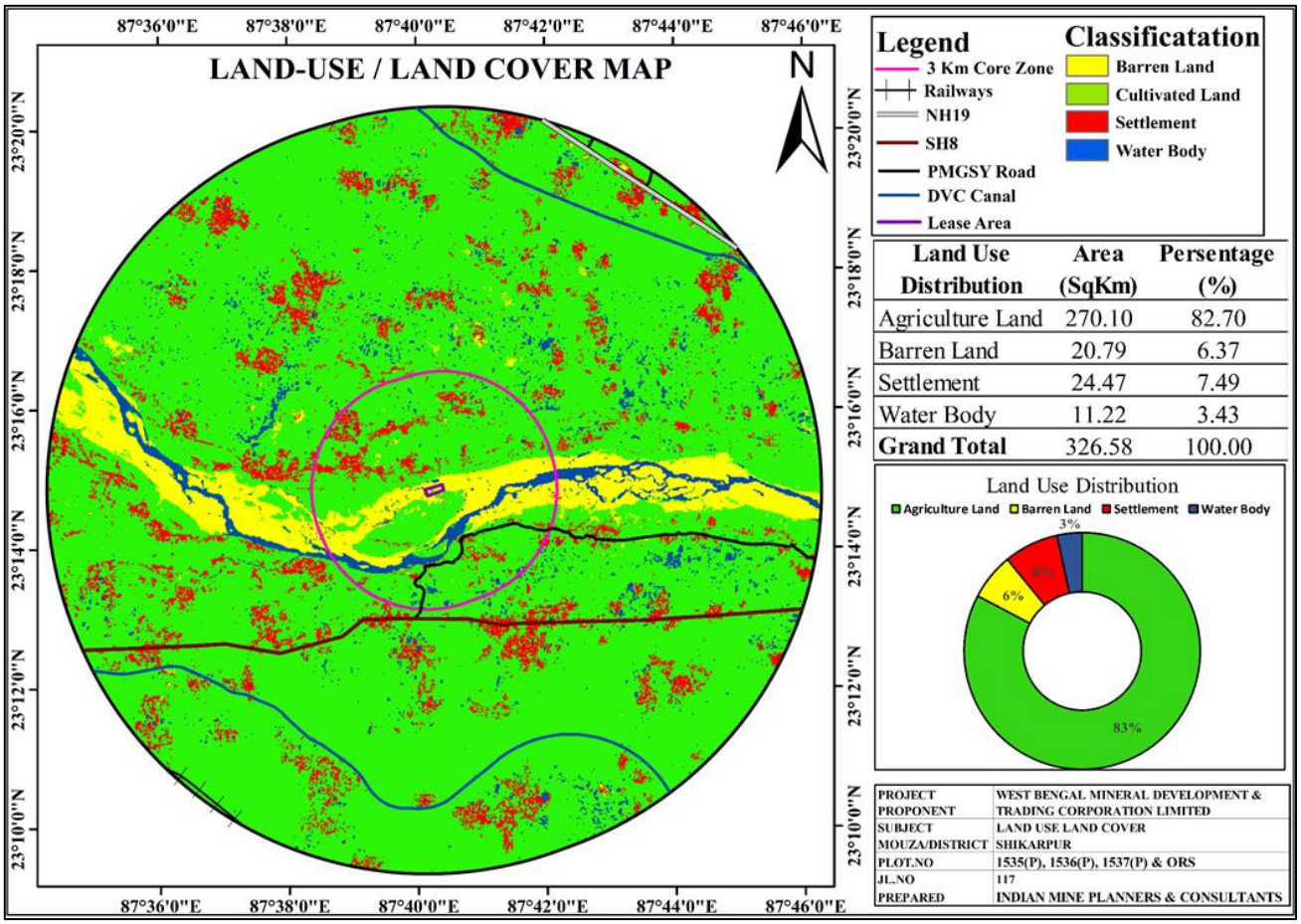



***Figure 3.2:*** Land use Land Cover of the Study Area.

***Table 3.2:*** Land use Land cover statistics of the Study Area.

| S. No. | FEATURE | AREA ($Km^2$) | AREA PERCENTAGE (%) |
|---|---|---|---|
| 1. | Cropland (Agricultural & Fallow Land) | 270.10 | 82.70 |
| 2. | Water Bodies (River water and Ponds) | 11.22 | 3.43 |
| 3. | Built-up Area (Buildings & Houses) | 24.47 | 7.49 |
| 4. | Bare Ground (Barren Land) | 20.79 | 6.37 |
| **TOTAL** | | **326.58** | **100.00** |

The site of the sand mining project is located on the Damodar River. The site of the project is located in the Purba Bardhaman District of the state of West Bengal. The river is a rain fed in nature and its bed mostly consists of sand of various sizes along with sand as shown in Figure 3.1. It is also predicted that this pit will naturally be filled with sand during the time of monsoon, based on the amount of rainfall obtained by the region and the volume of river flow. During the monsoon flood, the water level increases by 2.0 – 3.5 m during short periods.

Table 3.2 shows the land use land cover statistics of the study area covering a distance of 10 km. The LU LC map in Figure 3.3 shows that the analysis consists of 4 area groups (Crop Land, Water Body, Built-up Area and Barren Land). The Major portion of the study area is covered with Cropland which roughly covers 82% of the study area. In the remaining 18%, area consists of water bodies and Built Up area most of it with few portions of Forest Cover.

## 3.4. Micro Meteorological Data

The meteorological parameters play a vital role in transport and dispersion of pollutants in the atmosphere. The collection and analysis of meteorological data, therefore, is an essential component of Environmental Impact Assessment Studies. The long term and short-term impact assessment could be made through utilization and interpretation of meteorological data collected over long and short periods.

Since, the meteorological parameters exhibit significant variation in time and space, meaningful interpretation can only be done through a careful analysis of reliable data collected very close to the site. The micrometeorological data has been archived the Climatological table from the IMD Database from the year 1981 – 2010. The station details have been provided in table 3.3 followed by the climatological data sheet in table 3.4.

***Table 3.3:*** Micrometeorological Station Details (*Source: IMD Database*)

| | |
|---|---|
| **Name of Station** | Burdwan |
| **Location of the Station** | Burdwan, Purba Bardhaman, West Bengal |
| **Latitude** | 23° 14′ |
| **Longitude** | 87° 51′ |
| **Height above M.S. L.** | 32 m |
| **Based on Observation** | 1991 – 2020 |

***Table 3.4:*** Climatological data of Burdwan Station from the year 1981-2010 as per the IMD Database

| **Month** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** |
|---|---|---|---|---|---|---|
| **Record High (°C)** | 36.6 | 38.8 | 40.4 | 46.0 | 46.5 | 45.2 |
| **Record Low (°C)** | 4.4 | 5.9 | 11.7 | 14.6 | 15.4 | 18.6 |
| **Avg. High (°C)** | 29.1 | 34.7 | 37.5 | 40.1 | 40.2 | 40.1 |
| **Avg. Low (°C)** | 8.5 | 12.4 | 16.4 | 19.6 | 21.5 | 21.8 |
| **Monthly Total Rainfall (mm)** | 9.3 | 21.7 | 29.2 | 60.2 | 93.3 | 216.7 |
| **Number of Rainy days** | 0.8 | 1.7 | 2.2 | 3.1 | 5.8 | 10.3 |
| **Avg. Relative Humidity (%)** | 73 | 74 | 71 | 77 | 74 | 80 |
| **Avg. Vapor Pressure (hPa)** | 13.3 | 17.9 | 22.1 | 30.0 | 31.4 | 34.1 |
| | | | | | | |
| **Month** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| **Record High °C** | 39.8 | 37.2 | 38.0 | 36.0 | 35.0 | 33.0 |
| **Record Low °C** | 19.4 | 17.0 | 16.0 | 15.4 | 9.8 | 4.4 |
| **Avg. High °C** | 35.9 | 34.8 | 35.2 | 34.4 | 32.7 | 30.3 |
| **Avg. Low °C** | 23.4 | 22.8 | 22.8 | 20.0 | 14.4 | 10.2 |
| **Monthly Total Rainfall (mm)** | 312.1 | 265.7 | 221.0 | 117.0 | 9.8 | 6.3 |
| **Number of Rainy days** | 15.1 | 13.9 | 11.2 | 5.8 | 0.8 | 0.6 |
| **Avg. Relative Humidity (%)** | 84 | 84 | 85 | 81 | 73 | 73 |
| **Avg. Vapor Pressure (hPa)** | 33.6 | 33.5 | 33.2 | 29.5 | 20.3 | 15.3 |

### 3.4.1. Temperature

The average monthly maximum and minimum temperature recorded at IMD station Burdwan is presented in Table 3.5. The recorded monthly maximum temperature usually ranges from 36.0 °C to 46.5 °C recorded mostly from March to September and recorded monthly minimum temperature usually ranges from 4.4 °C to 19.4 °C recorded mostly from November to February. The average monthly maximum temperature is 38.7 ° C in summers and average

monthly minimum temperature is 12.2 °C in winters. The month wise temperature variations are given in Figure 3.3.

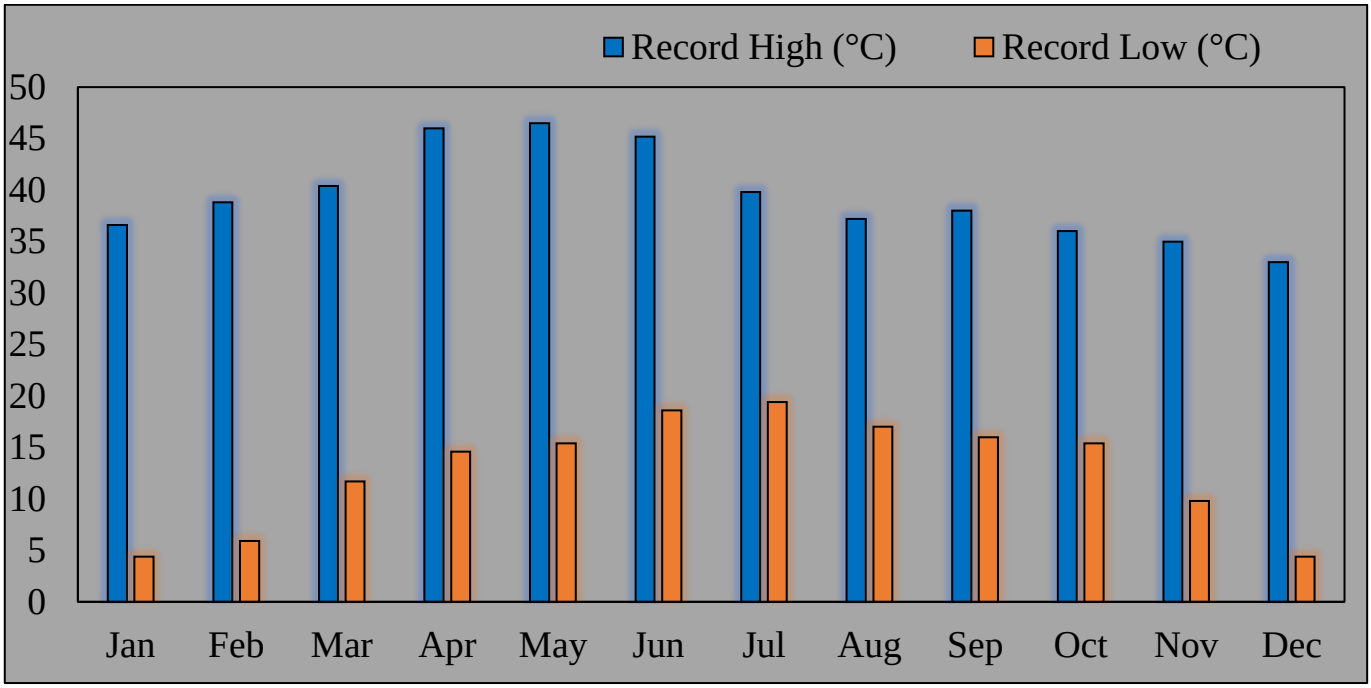



***Figure 3.3:*** Recorded Highest & Lowest Temperature at Burdwan (IMD: 1981-2010)

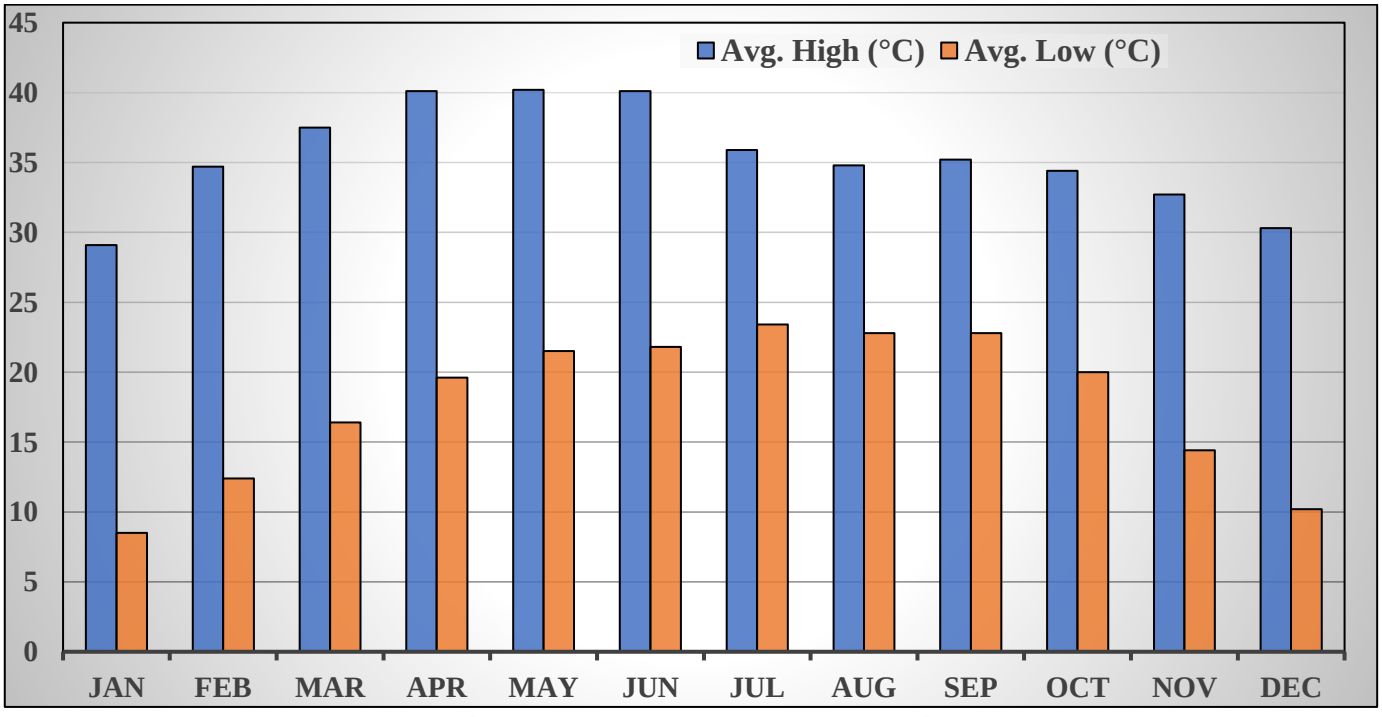



***Figure 3.4:*** Average Highest & Lowest Temperature at Burdwan (IMD: 1981-2010)

### 3.4.2. Rainfall

The average annual rainfall as per IMD Climatological Table (1981-2010) at Burdwan is 150.5 mm of which heaviest rainfall usually ranges from 300 – 400 mm which is received in the

months of June, July, August and September. The average monthly rainfall recorded at IMD station Burdwan is summarized in Table 3.4. The rainfall as received in various months of the year is given in Figure 3.7. The Last 5 years precipitation was also extracted from the IMD Database as shown in table 3.6.

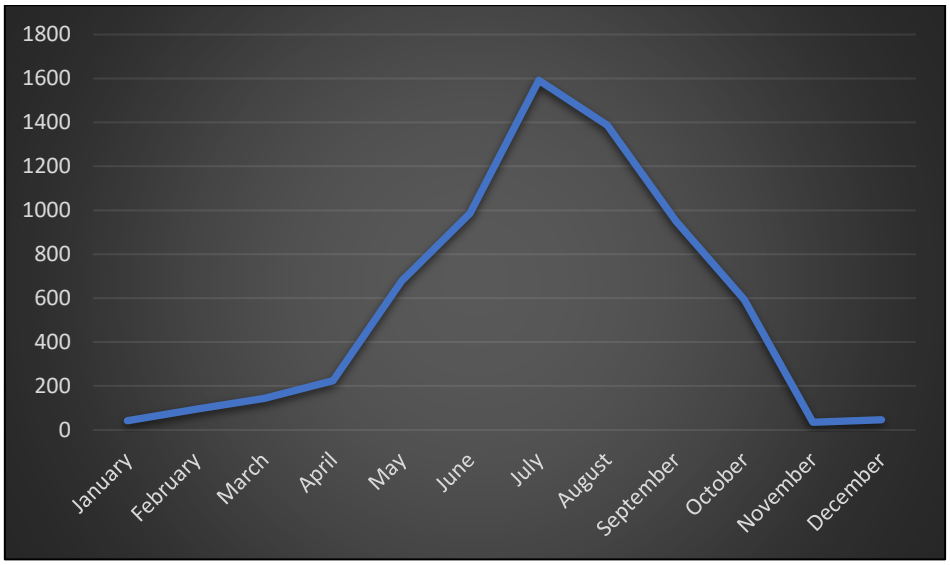



***Figure 3.5:*** Monthly Total Precipitation recorded at Burdwan (IMD: 1981-2010)

***Table 3.5***: Monthly Precipitation (in mm) of Burdwan District over the last 5 years (*Source: IMD Database*)

| Month | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| **January** | 13.5 | 1.2 | 0 | 0 | 26.6 |
| **February** | 29.3 | 0 | 0.1 | 64 | 1.1 |
| **March** | 15 | 32.6 | 15.1 | 16.3 | 64.6 |
| **April** | 0 | 28.3 | 82.6 | 47.8 | 65.8 |
| **May** | 120 | 171.2 | 43.5 | 129.9 | 212.0 |
| **June** | 182.5 | 255.8 | 158.1 | 90.9 | 298.4 |
| **July** | 263.9 | 464.1 | 329.7 | 195.8 | 338.2 |
| **August** | 463.5 | 252.9 | 174.7 | 233.1 | 262.2 |
| **September** | 274.5 | 178.2 | 154.3 | 215.8 | 128.2 |
| **October** | 44.3 | 260.1 | 16 | 191.7 | 81 |
| **November** | 1.9 | 14.5 | 0 | 16.8 | 1.7 |
| **December** | 0 | 9.1 | 26.7 | 11.1 | 0 |
| **Total** | **1408.4** | **1668.0** | **1000.8** | **1213.2** | **1479.8** |

### 3.4.3. Humidity

The relative humidity is generally high throughout the year, with highest during the morning and comparatively low relative humidity recorded afternoon. The month wise humidity variations are given in Figure 3.8. The average humidity of the district usually is around 80%

annually with 27 hPa vapor pressure and during the summers, it ranges from 80 – 85%. With average vapor pressure of 13.3 – 33 hPa.

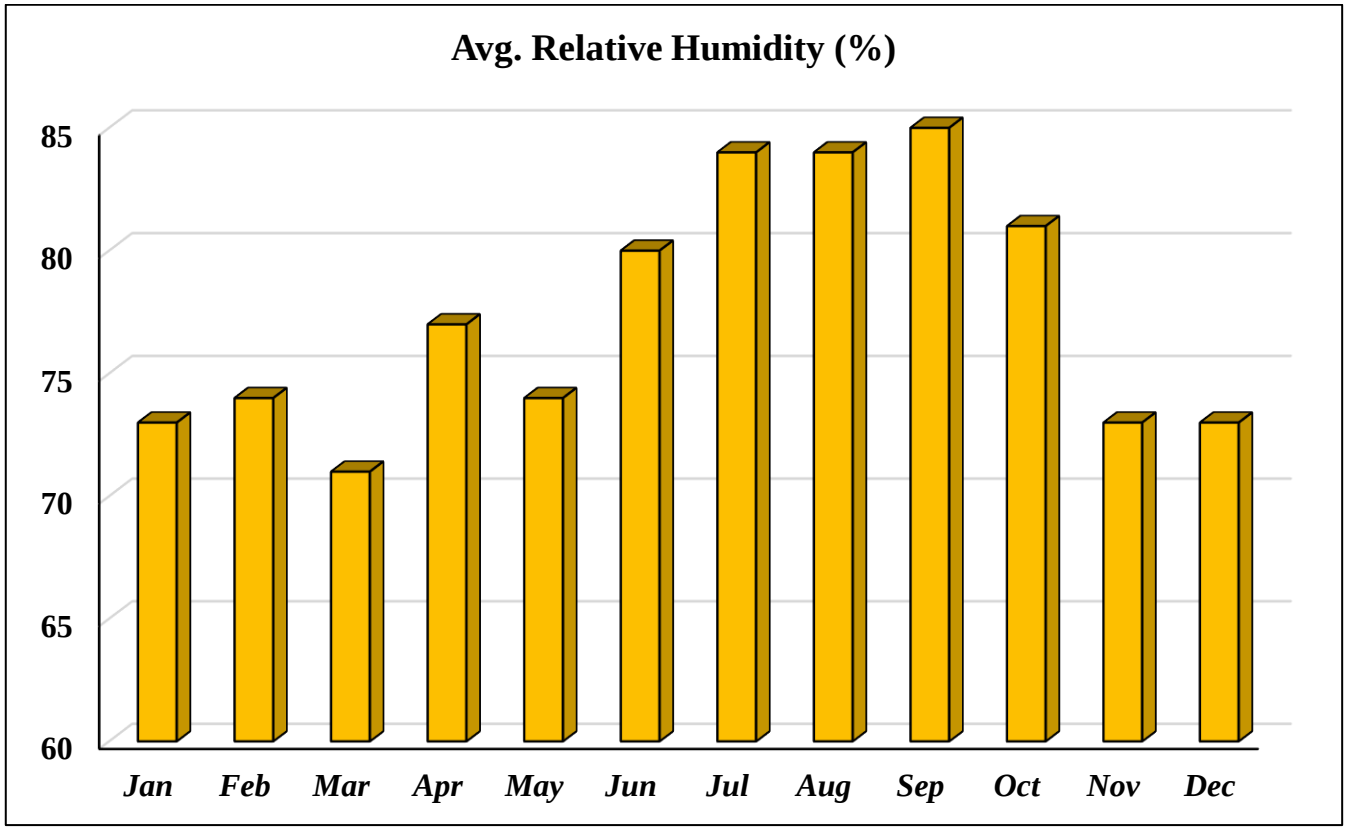



***Figure 3.6:*** Average Relative Humidity recorded at Burdwan (IMD: 1981-2010)

## 3.5. Ambient Air Quality

The ambient air quality (AAQ) with respect to the study zone around the proposed project area forms the baseline information. The various sources of air pollution in the region are traffic, urban rural activities and industrial activities (mining activities). The study area represents mostly rural environment.

The parameters monitored during the study period were particulate Matters ($PM_{10}$), particulate Matters ($PM_{2.5}$), Sulphur dioxide ($SO_2$) and Oxides of Nitrogen ($NO_x$). The results of monitoring carried out for study period October 2023 to December 2023 representing Winter season are presented later in this section.

### 3.5.1 Methodology opted for AAQ Investigation

The baseline status of the ambient air quality has been assessed through a scientifically designed ambient air quality monitoring network. The designs of monitoring network in the air quality surveillance program have been based on the following considerations:

- Meteorological conditions on synoptic basis;

- Topography of the study area;
- Representatives of regional background air quality for obtaining baseline status; and
- Representatives of likely impact areas.

The ambient air quality monitoring was carried out at 4 locations. The location and description of AAQM stations is shown in Table 3.7 and Figure 3.9 below.

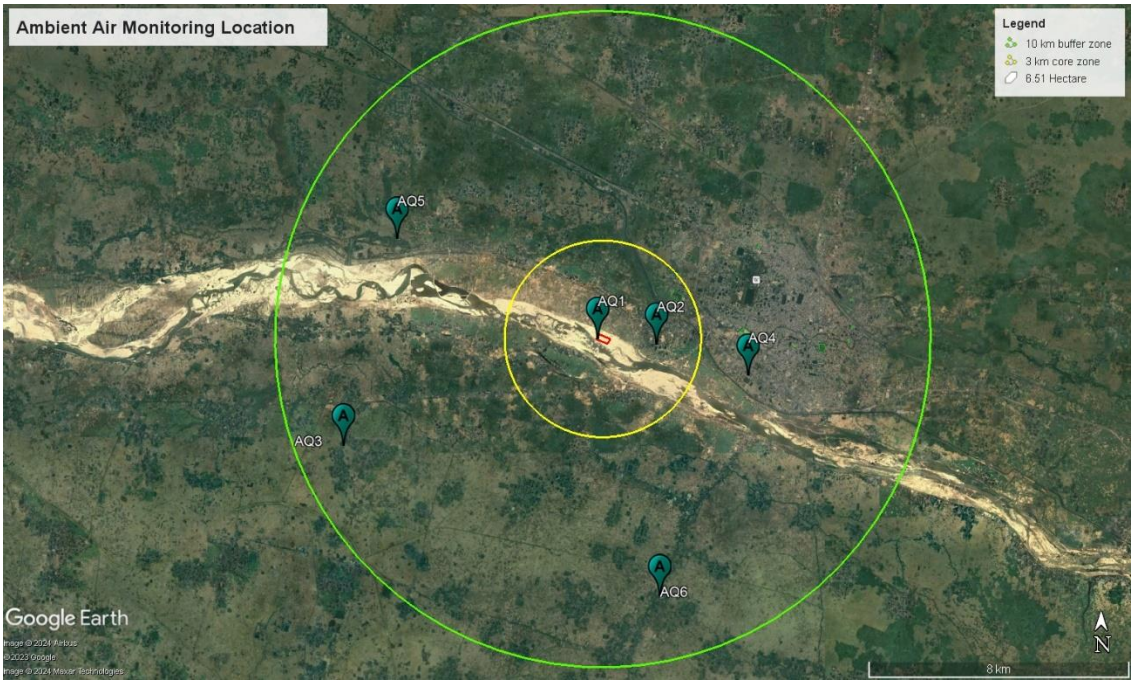



***Figure 3.7:*** Ambient Air Quality Sampling Locations in the Study Area.

***Table 3.6:*** AAQ Sampling location within the Study Area

| Location Code | Latitude | Longitude | Distance & Direction w.r.t. Project Site |
|---|---|---|---|
| **AQ-1** | 23°14'2.26"N | 87°48'9.28"E | INSIDE LEASE AREA |
| **AQ-2** | 23°13'56.64"N | 87°49'12.60"E | 1.62 KM-E |
| **AQ-3** | 23°12'16.89"N | 87°43'35.94"E | 8.60 KM-SW |
| **AQ-4** | 23°13'25.87"N | 87°50'51.17"E | 4.58 KM-SE |
| **AQ-5** | 23°15'41.00"N | 87°44'33.48"E | 6.99 KM-NW |
| **AQ-6** | 23° 9'48.22"N | 87°49'15.98"E | 7.98 KM-SE |

Ambient air quality monitoring has been carried out with a frequency of two days per week during study period. The baseline data of air environment was monitored for parameters mentioned below as per the MoEF&CC guidelines and point no. 44 of granted TOR bearing vide letter no. EN/T – II – 1/144/2024 dated 14th August 2024:

- Particulate Matter ($PM_{10}$);
- Particulate Matter ($PM_{2.5}$)

- Sulphur Dioxide ($SO_2$);
- Oxides of Nitrogen ($NO_x$);
- Free Silica (Si);

The techniques used for ambient air quality monitoring and minimum detectable levels are given in Table 3.7 followed by site photographs showing the AAQ sampling done by the INDICATIVE CONSULTANT INDIA team under the supervision of IMPCON Experts in Figure 3.9.

***Table 3.7:*** Methodology adopted for the analysis of AAQ Samples

| Parameters | Technique | Technical Protocol | Minimum Detection Limit |
|---|---|---|---|
| Particulate Matter ($PM_{10}$) | Gravimetric Method | IS 5182 Part 23 | 5.0 $\mu g/m^3$ |
| Particulate Matter ($PM_{2.5}$) | Gravimetric Method | IS 5182 Part 24 | 3.0 $\mu g/m^3$ |
| Sulphur Dioxide ($SO_2$) | Improved West and Geake | IS 5182 Part 2 | 4.0 $\mu g/m^3$ |
| Oxides of Nitrogen ($NO_x$) | Modified Jacob and Hochheiser | IS 5182 Part 6 | 5.0 $\mu g/m^3$ |
| Free Silica (Si) | Spectrophotometric Method | IS 15388 : 2003 | 3.0 $\mu g/m^3$ |



***Figure 3.8:*** AAQ and Meteorological Sampling in various sites Project Site

### 3.5.3 Laboratory Analysis and Interpretation of AAQ Data

***Table 3.8:*** Summary of AAQ Data, winter (October 2023 – December 2023)

| Station Code | $PM_{10}$ (µg/m³) | | | | $PM_{2.5}$ (µg/m³) | | | | $SO_2$ (µg/m³) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | Avg. | 98th Percentile | Max. | Min. | Avg. | 98th Percentile | Max. | Min. | Avg. | 98th Percentile |
| AQ-1 | 94.12 | 80.23 | 87.17 | 92.23 | 39.78 | 28.87 | 34.32 | 38.98 | 8.02 | 7.25 | 7.63 | 7.86 |
| AQ-2 | 64.47 | 52.25 | 58.36 | 63.18 | 23.65 | 15.23 | 19.44 | 23.17 | 5.97 | 4.0 | 4.98 | 5.85 |
| AQ-3 | 66.54 | 50.27 | 58.40 | 65.21 | 22.26 | 14.45 | 18.35 | 21.81 | 6.19 | 4.0 | 5.09 | 6.12 |
| AQ-4 | 59.74 | 47.78 | 61.56 | 68.47 | 23.05 | 12.54 | 17.79 | 22.59 | 6.25 | 2.5 | 4.37 | 6.01 |
| AQ-5 | 62.84 | 49.21 | 52.33 | 63.18 | 23.65 | 15.23 | 19.44 | 23.17 | 5.97 | 4.0 | 4.98 | 5.85 |
| AQ-6 | 66.54 | 52.25 | 58.40 | 68.47 | 23.05 | 12.54 | 17.79 | 22.59 | 6.25 | 2.5 | 4.37 | 6.01 |
| **100** | | | | | **60** | | | | **80** | | | |

***Table 3.9:*** Summary of AAQ Data, winter (October 2023 – December 2023)

| Station Code | NOx (µg/m³) | | | | Si (mg/m³) | | | |
|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | Avg. | 98th percentile | Max. | Min. | Avg. | 98th percentile |
| AQ-1 | 13.5 | 10.2 | 13.23 | 11.85 | 1.16 | 0.61 | 0.84 | 1.08 |
| AQ-2 | 13.2 | 9.8 | 13.94 | 11.50 | <0.25 | <0.25 | <0.25 | <0.25 |
| AQ-3 | 14.4 | 10.5 | 12.45 | 14.11 | <0.25 | <0.25 | <0.25 | <0.25 |
| AQ-4 | 13.9 | 10.2 | 12.05 | 13.62 | <0.25 | <0.25 | <0.25 | <0.25 |
| AQ-5 | 13.2 | 9.8 | 13.94 | 11.50 | <0.25 | <0.25 | <0.25 | <0.25 |
| AQ-6 | 14.4 | 10.5 | 12.45 | 14.11 | <0.25 | <0.25 | <0.25 | <0.25 |
| **80** | | | | **20** | | | | |

## 3.6. Ambient Noise

A noise survey has been conducted in the study area covering residential transportation, commercial and calm zones. The main objective of noise monitoring in the study area is to establish the baseline noise level, which is needed for assessing the impact of total noise, which is expected to be generated in the proposed project activities. Noise is measured in terms of the loudness of the sound. A sound is a form of energy that propagates through an elastic medium at a speed that is determined by the properties of that medium. Since loudness of sound is important to the effects of noise on people, the dependence of loudness upon frequency must be taken into account in environmental noise assessments. Several methods have been developed by researchers using the frequency spectrum of sound to arrive at the loudness index or the given sound. For measuring the intensity of the sound, "A sound level meter" is used, which gives the intensity of sound in terms of dB (A).

### 3.6.2 Identification of Sampling Location

A preliminary site survey has been undertaken to identify the major noise generating sources in and around the mining site area. Noise at different noise generating sources has been identified based on the activities in the village area and ambient noise due to traffic.

The noise monitoring has been conducted for determination of ambient noise levels at four locations in the study area for summer season (October 2023 – December 2023). The noise levels at each location were recorded for 24 hours. The environment setting of noise monitoring locations is given in Table 3.14 and shown in Figure 3.13.

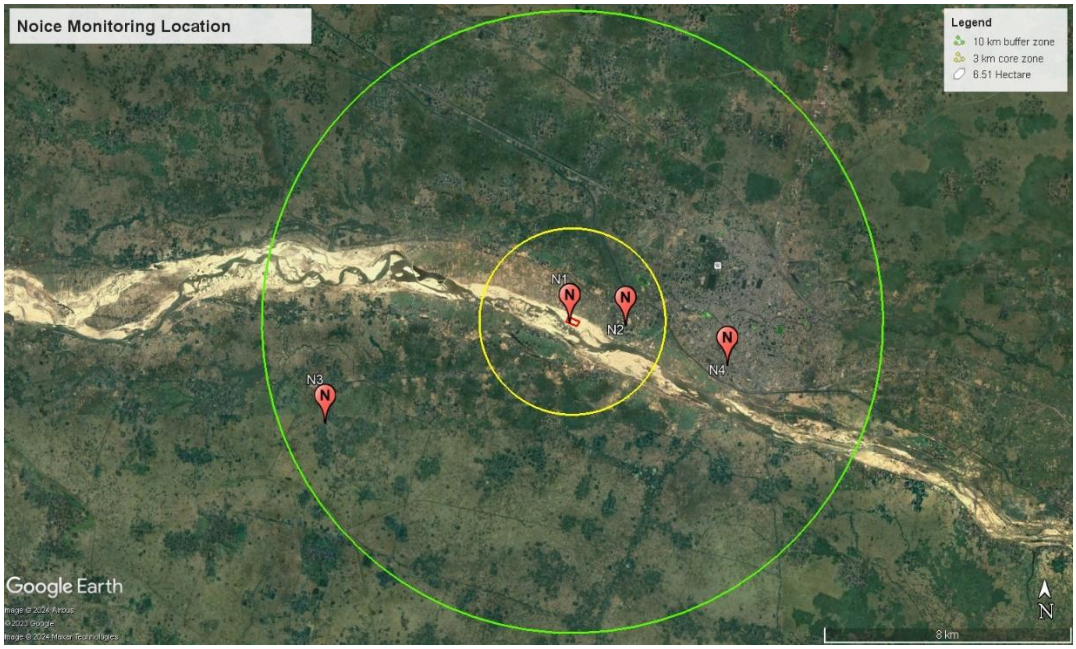



***Figure 3.9:*** Noise Sampling Location in the Study Area

***Table 3.11:*** Ambient Noise environment sampling locations.

| Location Code | Latitude | Longitude | Distance & Direction w.r.t. Project Site |
|---|---|---|---|
| **N-1** | 23°13'58.89"N | 87°48'19.58"E | INSIDE LEASE AREA |
| **N-2** | 23°13'52.67"N | 87°49'8.48"E | 1.68 KM-E |
| **N-3** | 23°12'18.34"N | 87°43'31.13"E | 8.63 KM-SW |
| **N-4** | 23°12'57.90"N | 87°51'42.55"E | 1.37 KM-NW |

### 3.6.2 Methodology for Data Collection

Sound Pressure Level (SPL) measurements were measured at all locations. The readings were taken for every hour for 24 hours. The day noise levels have been monitored during 6 am to 10 pm and night levels during 10 pm to 6 am at all the locations covered in 10 km radius of the study area.

Noise levels were measured using integrated sound level meter manufactured by Lutron SL – 4001 Digital Sound Level Meter. The sound level meter consists of a calibrated microphone, electronic circuits, and a display. The microphone detects small air pressure variations associated with sound and converts them into electrical signals. The aforementioned signals are then processed using the instrument's electronic circuitry with frequency range of 31.5 to 8000 Hz. This instrument is capable of measuring the Noise level analysis.

The $L_{eq}$ is the equivalent continuous sound level, which is equivalent to the same sound energy as the actual fluctuating sound measured in the same period. This is necessary becausesound from noise source often fluctuates widely during a given period of time. Table 3.12 below shows the National Ambient Noise Standards followed by site photographs showing the Ambient Noise sampling done by the N.D INTERNATIONAL team under the supervision of IMPCON Experts in Figure 3.13.

***Table 3.12:*** National Ambient Noise Level Standard

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



***Figure 3.10:*** Ambient Noise Sampling in across study area.

Noise pollution in the study area is associated with Industrial activities and vehicular traffic. To judge the ambient noise level of the area, noise levels were recorded at 4 locations in dB (A). The details of the location are given in Table 3.14. Monitoring results of the Noise level recorded at 4 locations are given in the table below.

***Table 3.13:*** Monitoring results of the Noise level in and around project site.

| ***Noise Level dB (A) $L_{eq}$*** | | | | | | |
|---|---|---|---|---|---|---|
| ***LOCATION*** | **DAY TIME** | | | **NIGHT TIME** | | |
| | **Max** | **Min** | **Average** | **Max** | **Min** | **Average** |
| ***N-1*** | 62.00 | 56.80 | 59.40 | 62.80 | 56.80 | 59.80 |
| ***N-2*** | 61.00 | 53.10 | 57.05 | 61.00 | 53.10 | 57.05 |
| ***N-3*** | 72.10 | 69.40 | 70.75 | 73.40 | 68.90 | 71.15 |
| ***N-4*** | 68.50 | 67.60 | 68.05 | 68.40 | 64.00 | 66.20 |

**Note:**

1) Daytime is from 6.00 am to 10.00 pm and Night time is from 10.00 pm to 6.00 am.
2) Silence zone is defined as area up to 100 meters around premises of hospitals, educational institutions and courts. Use of vehicle hours, loud speakers and bursting of crackers are banned in these zones.

### 3.6.3 Interpretation of Ambient Noise Data

The values of noise observed in some of the areas are primarily owing to vehicular traffic and other anthropogenic activities. Noise monitoring reveals that the maximum & minimum noise

levels at day time were recorded between as 72.10 dB (A) & 53.10 dB(A) respectively. The maximum & minimum noise levels at night time were found to be 73.40 dB(A) & 53.10 dB(A) respectively It is observed that the noise levels are well within the prescribed Ambient Air Quality Standards with respect to Noise.

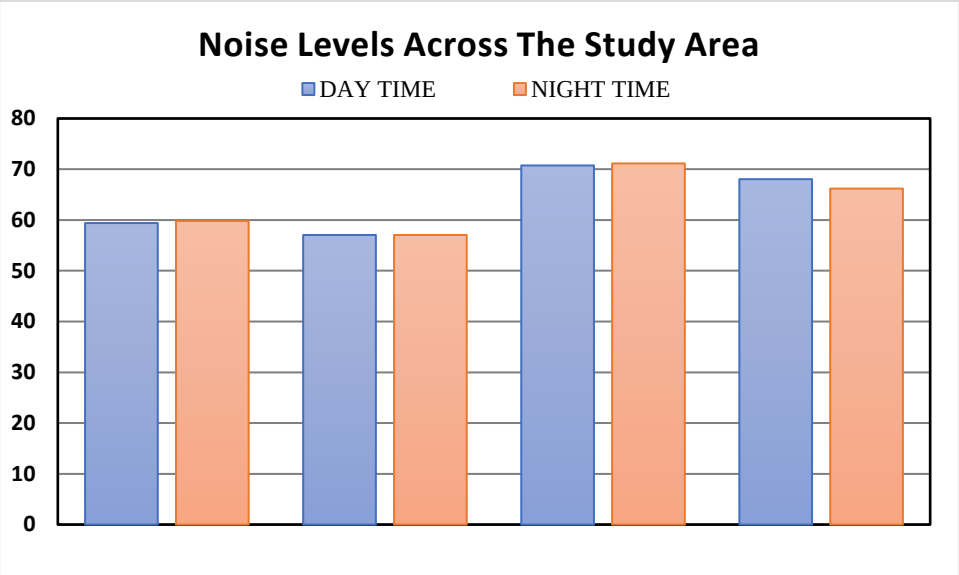



***Figure 3.11:*** Noise Level in and around Study Area.

## 3.7. Traffic Management Plan

### 3.7.1. Transportation Route

The minerals excavated will be loaded directly into trucks and transported to the concerned market. The transportation route is shown in the map as given below:

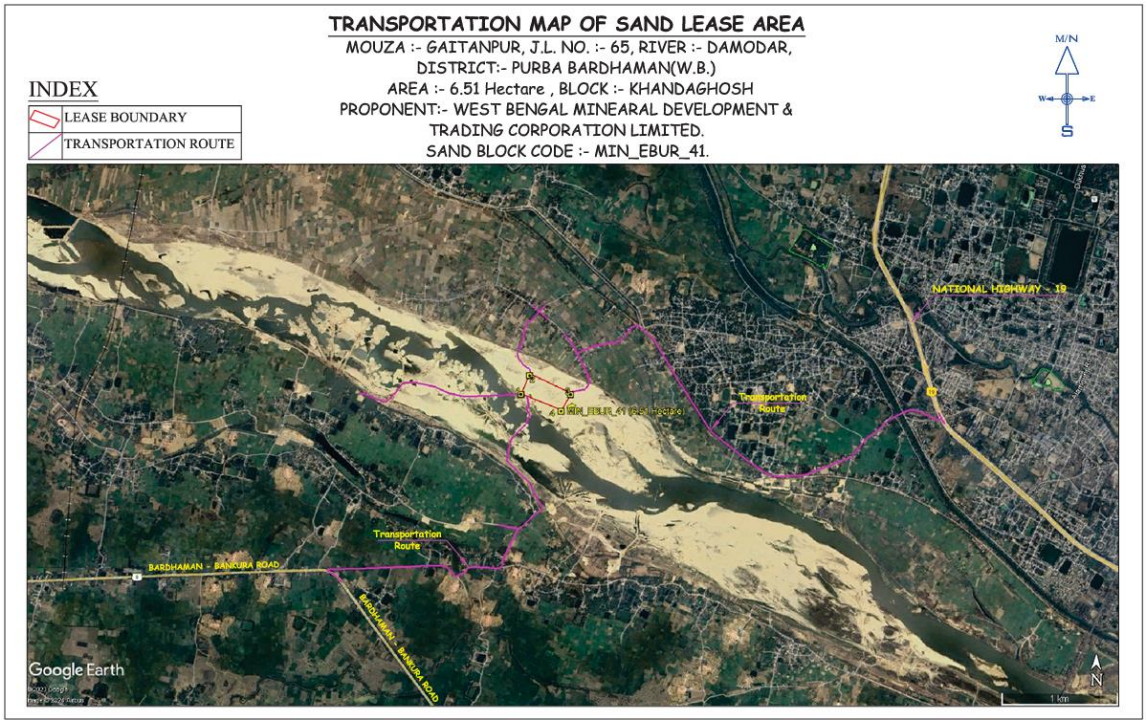



***Figure 3.12:*** Transportation Route Map of the Proposed Lease Area.

### 3.7.2. Transportation Analysis (Existing)

Traffic analysis is carried out by understanding the existing carrying capacity of the roads near to the project site and the connecting main roads in the area. Then depending on the capacity of the mine site, the number of trucks that will be added to the present scenario will be compared to the carrying capacity. Traffic density measurement were made continuously for 24 hours by visual observation and counting of vehicles under five categories, viz., heavy Commercial Vehicles, light Commercial vehicles, cars, Two-Wheeler and Three-Wheeler. As the mining site is well connected to the State Highway – 8 and National Highway – 9 via unpaved village road of about 5.67 km and 13.2 km respectively. For that, two skilled persons were deployed near the NH-19 for a day on dated. Total numbers of vehicles per hour has been calculated. The results of measurements are given in the table below.

***Table 3.14:*** Existing Traffic Scenario (As per IRC 106: 1990)

| Sl. No | Vehicles Distribution | Number of Vehicles Distribution/Hour | Passenger Car Unit (PCU) | Total Number of Vehicles (PCU)/Day |
|---|---|---|---|---|
| 1. | Heavy Commercial Vehicles | 3,825 | 3.0 | 11,475 |
| 2. | Light Commercial Vehicles | 1.925 | 1.5 | 2,887 |
| 3. | Cars | 2,194 | 1.0 | 2,194 |
| 4. | Two – Wheeler | 2,719 | 0.5 | 1,359 |
| 5. | Three – Wheeler | 1,827 | 1.0 | 1,827 |
| **Total** | | **20,542** | | 19,742 / 24 = **822.58 PCU /hour** |

***Table 3.15:*** Existing Traffic Scenario & LOS at Project Site

| Sl. No | ROAD | V (Volume in PCU/hr) | C (Capacity in PCU/hr) | Existing V/C Ratio | LOS |
|---|---|---|---|---|---|
| 1 | NH-19 | 823 | 1500 | 0.55 | C |

### 3.7.3. Interpretation of Traffic Study

The existing Level of Service (LOS) is ''C'' i.e., Good.

V= Volume of Vehicles in PCU's/Hour & C= Capacity of Road in PCU's/Hour.

***Table 3.16:*** Standards as per IRC: 64-1990

| V/C | LOS | Performance |
|---|---|---|
| 0.0-0.2 | A | Excellent |
| 0.2-0.4 | B | Very Good |
| 0.4-0.6 | C | Good/Average/Fair |

| V/C | LOS | Performance |
|---|---|---|
| 0.6-0.8 | D | Poor |
| 0.8-1.0 | E | Very Poor |

***Table 3.17:*** Modified Traffic Scenario & LOS

| Sl. No | ROAD | Increased PCU's / State Highway | V (Volume in PCU/hr) | C (Capacity in PCU/hr) | Existing V/C Ratio | LOS |
|---|---|---|---|---|---|---|
| 1 | NH-19 | 9 | 830 + 9 | 1500 | 0.55 | C |

From the above analysis it can be seen that the Transportation load on NH-19 will increase and the LOS will remain same after start of mining operation also, hence, there will be little change on the proposed evacuation roads due to additional traffic. However, Traffic management has been proposed as given below.

### 3.7.4. Management of Traffic

- Roads will be repaired regularly and maintained in good conditions.
- Haul roads will be sprinkled with water to keep the dust suppressed.
- A supervisor will be appointed to regulate the traffic movement near the site.
- Speed breakers will be constructed near accident prone areas to calm the traffic and its speed.
- Signage will be erected at the sensitive & precarious places to caution or provide information to road users.

## 3.8. Soil Characteristics

The soil sample is collected from the core zone and buffer zone since the project is not likely to affect the land use outside core zone. Samples are collected through hand auger boring up to a depth of 15 to 30 cm. The location of sampling was given in Table 3.16 followed by Figure 3.17 showing the sampling locations across the study area.

***Table 3.18:*** Soil Characterization sampling locations along the Study Area

| Location Code | Latitude | Longitude | Distance & Direction w.r.t. Project Site |
|---|---|---|---|
| **S-1** | 23°13'58.89"N | 87°48'19.58"E | INSIDE LEASE AREA |
| **S-2** | 23°13'52.67"N | 87°49'8.48"E | 1.55 KM-E |
| **S-3** | 23°12'18.34"N | 87°43'31.13"E | 8.66 KM-SW |

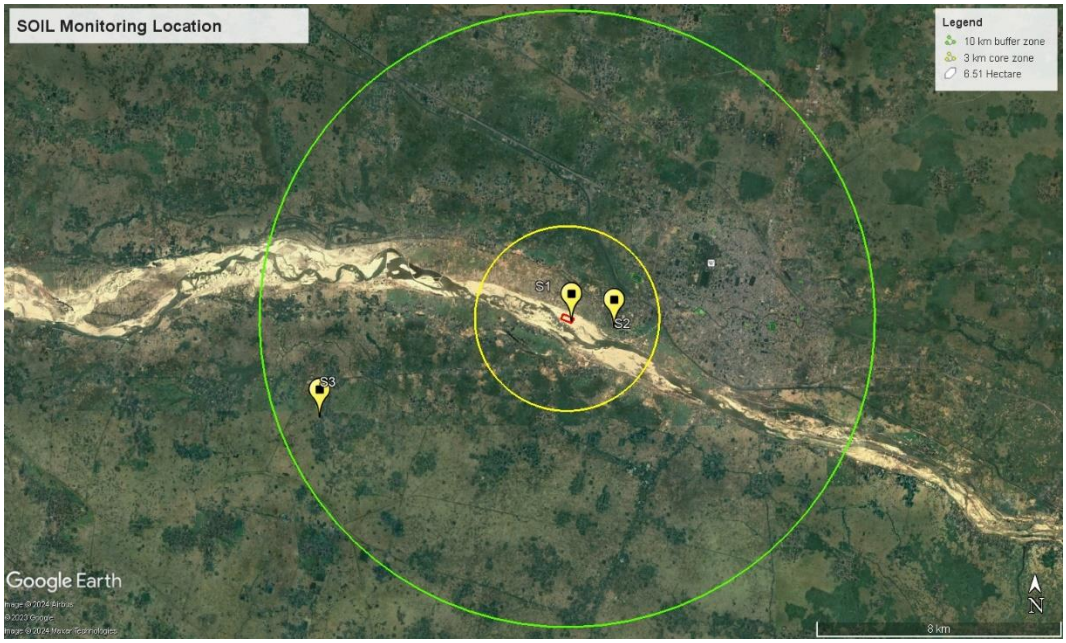



***Figure 3.13:*** Soil Sampling Location across the Study Area.

### 3.8.1 Interpretation of Soil Characterization Data

Soil samples were collected from surrounding the study area and around project site that are likely to be impacted from the project. Soil quality analysis done for parameters like texture, moisture, organic matter, conductivity, pH, bulk density, and NPK values. The soil sample was collected in presence of the functional area experts and analyzed by NABL accredited laboratory, during the post monsoon season results are given in Table 3.15.

***Table 3.19:*** Soil Characterizations

| Sl. No | Parameter | Unit | RESULT | | |
|---|---|---|---|---|---|
| | | | S-1 | S-2 | S-3 |
| 1. | Electrical Conductivity | µs/cm | 47.42 | 55.44 | 109.7 |
| 2. | Nitrogen (as N) | mg/Kg | 145.24 | 174.55 | 206.34 |
| 3. | Moisture | % | 16.34 | 12.12 | 19.49 |
| 4. | Specific Gravity (at 25°C) | - | 2.58 | 2.59 | 2.49 |
| 5. | Bulk Density | $g/cm^3$ | 1.34 | 1.11 | 1.13 |
| 6. | Phosphorus (as P) | mg/Kg | 16.35 | 26.57 | 19.88 |
| 7. | Potassium (as K) | mg/Kg | 18.77 | 32.56 | 34.03 |
| 8. | Sodium Absorption Ratio (SAR) | meq/Kg | 0.39 | 0.43 | 0.31 |
| 9. | Permeability at 27°C ($k_{27}$) | cm/s | $5.8 \times 10^{-4}$ | $<10^{-7}$ | $<10^{-7}$ |
| 10. | Calcium (as Ca) | mg/Kg | 118.23 | 213.11 | 257.46 |
| 11. | Sand Content | % | 58.45 | 11.54 | 13.11 |

| Sl. No | Parameter | | Unit | RESULT | | |
|---|---|---|---|---|---|---|
| | | | | S-1 | S-2 | S-3 |
| 12. | | Slit Content | % | 3.66 | 5.00 | 2.22 |
| 13. | | Clay Content | % | 37.89 | 83.46 | 84.67 |
| 14. | | Soil Type | - | Sand clay | Clay | Clay |



***Figure 3.14*:** Soil Sampling across the Study Area.

## 3.9. Water Quality

Selected water quality parameters of surface and ground water resources in the study area have been studied for assessing the water environment and evaluate anticipated impact of the quarry. Understanding the water quality is essential in preparation of EIA and to identify critical issues with a view to suggest appropriate mitigation measures for implementation.

The purpose of this study is to:

- Assess the water quality characteristics for critical parameters;
- Evaluate the impacts on agricultural productivity, habitat conditions, recreational resources and aesthetics in the vicinity; and
- Predict impact on water quality by this project and related activities.

The information required has been collected through primary surveys and secondary sources.

### 3.9.1 Methodology

Site Investigation was undertaken and monitoring locations were finalized based on:

→ Drainage pattern;

→ Location of residential areas representing different activities/likely impact areas; and

→ Likely areas, which can represent baseline conditions.

The samples were analyzed essential parameters as per the drinking water specification IS 10500: 2012.

Samples for chemical analysis were collected in polyethylene carboys. Samples for bacteriological analysis were collected in sterilized glass bottles. Selected physico-chemical and bacteriological parameters have been analysed for projecting the existing water quality status in the study area. Selected water quality parameters for water resource of the study area have been used for describing the water environment and assessing the impacts. About 4 Nos Sampling location area presented in (Table 3.20). Ground water samples and 4 no. (Table 3.21). surface water samples were collected in the study area to assess the water quality. Water samples are drawn from the hand pumps being used by the villagers for domestic needs. The sampling locations for both surface water & ground water are shown below.

***Table 3.20:*** GPS Coordinates of Ground water Sample collection location

| Location Code | Latitude | Longitude | Distance & Direction w.r.t. Project Site |
|---|---|---|---|
| GW-1 | 23°13'58.08"N | 87°49'13.06"E | 1.65 KM-E |
| GW-2 | 23°12'57.12"N | 87°51'41.58"E | 6.22 KM-SE |
| GW-3 | 23°12'18.48"N | 87°43'36.86"E | 8.49 KM-SW |

***Table 3.21:*** GPS Coordinates of Surface water Sample collection location

| Location Code | Latitude | Longitude | Distance & Direction w.r.t. Project Site |
|---|---|---|---|
| SW-1 | 23°13'58.93"N | 87°48'4.48"E | 0.29 KM-SW |
| SW-2 | 23°13'53.46"N | 87°49'11.19"E | 1.61 KM-SE |
| SW-3 | 23°12'18.31"N | 87°43'32.88"E | 8.64 KM-SW |

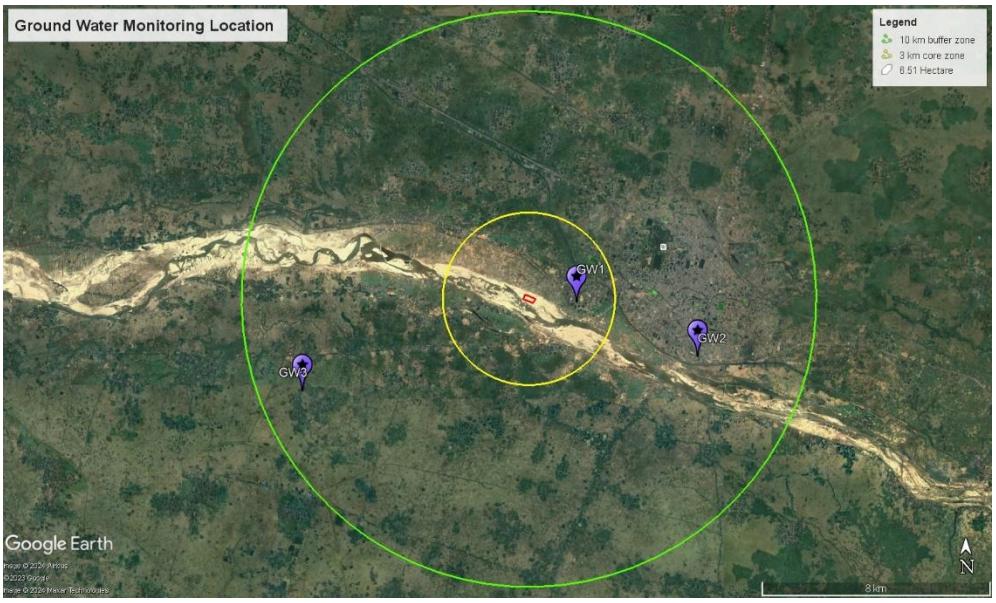



***Figure 3.15:*** Ground water sampling locations across the study area.

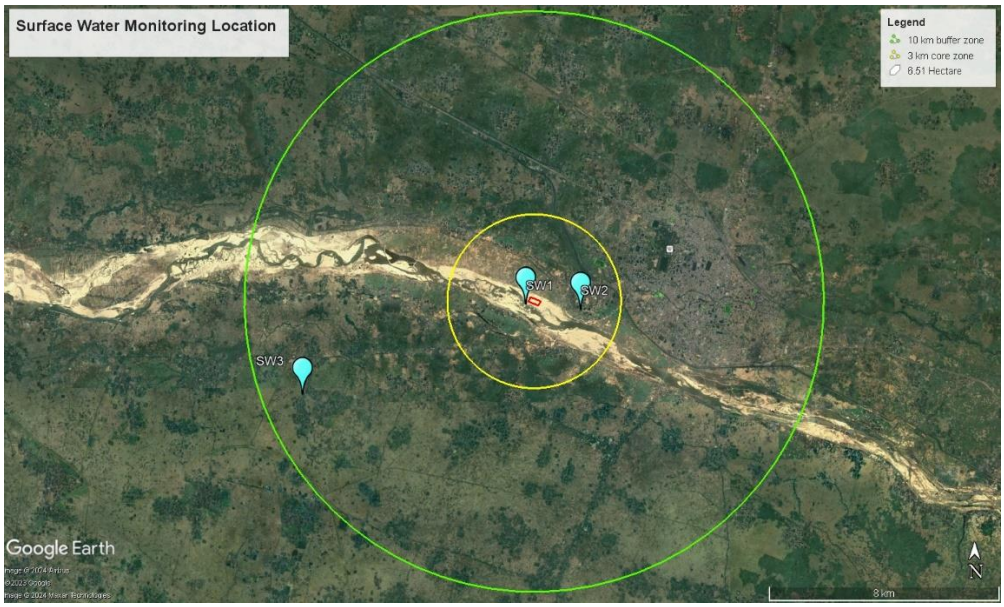



***Figure 3.16:*** Surface water sampling location across the study area.

### 3.9.2 Interpretation of Water Quality Data

Groundwater samples collected from three locations within a 10 km radius of the proposed site showed all parameters well within the drinking water standards specified in IS 10500 and IS 2296: Class C. So, all sites of water are suitable for drinking purposes. The Physico – Chemical characteristics of ground water samples presented in Table below followed by site investigation photographs.

***Table 3.21:*** Analysis results of Ground Water (GW-1 to GW-3)

| SI. No. | Test Parameters | Test Method | Unit | Results | | | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|---|---|
| | | | | GW-1 | GW-2 | GW-3 | AL (Max.) | PL (Max.) |
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622: 1981 | MPN/100 ml | BLQ | BLQ | BLQ | Not Detectable | |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | IS 1622: 1981 | CFU/100 ml | Absent | Absent | Absent | Not Detectable | |
| 3 | pH at 25°C | APHA, 23rd Edition, 4500 $H^+B$ | - | 6.83 | 7.23 | 6.92 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids (TDS) | APHA, 23rd Edition,2540-C | mg/l | 460 | 372 | 350 | 500 | 2000 |
| 5 | Chloride (as Cl) | APHA, 23rd Edition,4500, Cl-B | mg/L | 113.83 | 41.93 | 23.96 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA, 23rd Edition,4500, F-C | mg/L | <0.04 | <0.04 | <0.04 | 1 | 1.5 |
| 7 | Iron (as Fe) | APHA, 23rd Edition,3500, Fe-B | mg/L | 0.19 | 0.13 | <0.01 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA, 23rd Edition,4500, NO3-B | mg/L | 12.5 | <0.1 | <0.1 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA, 23rd Edition,4500, SO4-B | mg/L | 68.5 | 23.5 | 9.0 | 200 | 400 |
| 10 | Sulphide (as H2S) | APHA, 23rd Edition,4500, S2-B | mg/L | <0.1 | <0.1 | <0.1 | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA, 23rd Edition, 2340 C | mg/L | 297.8 | 213.41 | 173.7 | 200 | 600 |
| 12 | Arsenic (as As) | APHA, 23rd Edition,3113 B | mg/L | <0.01 | <0.01 | <0.01 | 0.01 | 0.05 |
| 13 | Chromium (as Cr) | APHA, 23rd Edition,3111 D | mg/L | <0.05 | <0.05 | <0.05 | 0.05 | No relaxation |
| 14 | Total Suspended Solids (TSS) | APHA, 23rd Edition, 2540 D | mg/L | 22.0 | 16.0 | 17.0 | 100 mg/l (max) | |

The physio-chemical characteristics of Surface water samples are presented in the Table below.

***Table 3.13:*** Analysis results of surface water (SW-1 to SW-3).

| SI. No. | Test Parameters | Test Method | Unit | Results | | | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|---|---|
| | | | | SW-1 | SW-2 | SW-3 | AL (Max.) | PL (Max.) |
| 1 | Total Coliform/100 ml at 37° for 24 hrs | IS 1622 | MPN/100 ml | 9.5 x $10^3$ | 1.1 x $10^3$ | 1.1 x $10^3$ | Not Detectable | |
| 2 | E. coli/100ml at 44.5° for 24hrs | IS 1622 | CFU/100 ml | Absent | Absent | Absent | Not Detectable | |
| 3 | pH at 25°C | APHA, 23rd Edition, 4500 $H^+B$ | - | 7.16 | 7.33 | 7.09 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA, 23rd Edition,2540-C | mg/l | 260.0 | 250.0 | 324.0 | 500 | 2000 |
| 5 | Chloride (as Cl) | APHA, 23rd Edition, 4500, Cl-B | mg/l | 14.98 | 14.98 | 32.95 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA, 23rd Edition, 4500, F-C | mg/l | <0.04 | <0.04 | <0.04 | 1 | 1.5 |
| 7 | Iron (as Fe) | APHA, 23rd Edition, 3500, Fe-B | mg/l | <0.01 | <0.01 | 0.09 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA, 23rd Edition, 4500, NO3-B | mg/l | 5.5 | 2.4 | 4.5 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA, 23rd Edition,4500, SO4-B | mg/l | 22.5 | 17.5 | 25.5 | 200 | 400 |
| 10 | Sulphide (as H2S) | APHA, 23rd Edition, 4500, S2-B | mg/l | <0.1 | <0.1 | <0.1 | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA, 23rd Edition, 2340 C | mg/l | 69.5 | 74.44 | 89.33 | 200 | 600 |
| 12 | Arsenic (as As) | APHA, 23rd Edition,3113 B | mg/l | <0.01 | <0.01 | <0.01 | 0.01 | 0.05 |
| 13 | Chromium (as Cr) | APHA, 23rd Edition, 3111 D | mg/l | <0.05 | <0.05 | <0.05 | 0.05 | No relaxation |
| 14 | Total Suspended Solids | APHA, 23rd Edition, 2540 D | mg/l | 28.0 | 23.0 | 56.0 | 100mg/l(max) | |
| 15 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part- 44) 1993 | mg/l | 4.0 | <2.0 | 7.0 | 30 mg/l(max) | |
| 16 | Chemical Oxygen Demand | APHA, 23rd Edition,5220 B | mg/l | 15.46 | 10.30 | 41.2 | 250 mg/l(max) | |



***Figure 3.16:*** Surface water sampling across the study area.



***Figure 3.17:*** Ground water sampling across the study area.

## 3.10. Eco – Biodiversity

In view of the need for conservation of environmental quality and biodiversity study, the study of Eco – biological environment is one of the most important aspects for Environmental Impact Assessment. Ecological systems show complex inter-relationshipsbetween biotic and abiotic components including dependence, competition and mutualism. Biotic components comprise of both plant and animal communities, which interact not only within and between them but also with the abiotic components viz. physical and chemical components of the environment.

Generally, biological communities are the indicators of climatic and edaphic factors. The biological environment includes mainly terrestrial ecosystem and aquatic ecosystem. The mining activities are one such external influence, which might affect the ecology of an area, if proper management measures are not taken.

### 3.10.1 Objectives

- To evaluate the diversity of local within project site (Core Zone and buffer Zone).
- To enlist the major agricultural crops, plantations and cultivated species.
- To document the major fauna both invertebrate and vertebrate occurring in the selected 10 km study area.

### 3.10.2 Methodology

Ecological study was done collecting baseline data to understand the present status of ecological settings of the area. Different types of habitats with varied vegetation covers are encountered in different ecological condition of the study area.

Random quadrats were laid to study the floral components in the study area in the following manner. The quadrat sizes laid were as follows –

(a) 10m x 10m in agricultural lands

(b) 25m X 25m in Degraded Forest lands

(c) 10m X 10m in tree plantation areas

Aquatic flora was studied in line transacts along the aquatic bodies.

Each studied location for vegetation study was marked with GPS and coordinates (latitude and longitude) were noted with site characteristics.

The land use pattern of this vast landscape has been framed from the Satellite Imagery and Toposheet and duly authenticated. Ground truth was also done in different location marking it with GPS coordinates. The land use / land cover pattern of the study area may be classified into following categories: (i) Crop Land (ii) Open areas without scrubs (iii) Settlements and (iv)Water bodies.

The study area is mostly covered with rainfed crops and is under paddy cultivation. A small area is irrigated by ground water for Boro paddy cultivation. A good amount area is also used for cultivation of vegetables etc. The species of herbs, shrubs and trees found in the sampled plots of study area are depicted in the table below.

### 3.10.3 Preliminary Observations

The land use pattern of this vast landscape has been framed from the Satellite Imagery and Toposheet and duly authenticated. Ground truth was also done in different location marking it with GPS coordinates. The land use / land cover pattern of the study area, may be classified into following categories: (i) Crop Land (ii) Open areas without scrubs (iii) Settlements and (iv)Water bodies. The study area is mostly covered with rainfed crops and is under paddy cultivation. A small area is irrigated by ground water for Boro paddy cultivation. A good amount area is also used for cultivation of vegetables etc. The species of herbs, shrubs and trees found in the sampled plots of study area are depicted in the table below.

### 3.10.4 Land Cover of the Study Area

The land use pattern of this vast landscape has been framed from the Satellite Imagery. Ground truthing was also done in different locations marking it with GPS coordinates. The land use / land cover pattern of the study area, may be classified into following categories: (i) vegetation (ii) croplands (iii) Degraded Forest area (iv) Human settlements (v) Barren land and (vi) Water bodies.

i. The study area is mostly covered with rainfed crops and is under rice cultivation. A small area is irrigated by ground water for rice cultivation. Small scale cultivation of various types of vegetable were also observed.
ii. Low lying area of the study area is almost flooded by Damodar river almost every year. A good amount area is also used for rice cultivation.
iii. Open areas without scrubs are also seen mostly in the riverbank of Damodar River. These are plain grass lands with various grass and herb species. These grasslands are mostly used as grazing lands.
iv. There are few patches of wild areas with many indigenous species of wild plants in some places of the study area. These small patches serve as refugia for small wild fauna and flora. In most of these place's plantations of exotic species like teak has been done.
v. Varied types of settlements were observed in the study area mostly dominated by Bengali and Hindi speaking people. The study area has some semi-urban areas. There are also a number of rural settlements scattered within the 10 km radius of the project area. Rural settlements dominate over the urban and semi-urban areas in terms of area covered.



***Figure 3.18:*** *Land Use Land Cover of the Study Area*

### 3.10.5 Aquatic Ecosystem

These are lotic water bodies (water bodies with fresh flowing water). Many studies emphasise that phytoplankton and zooplankton population can be used as indicators of water pollution. The rate of growth and development of plankton depends on various biological as well as abiological factors such as light, temperature, available nutrients, oxygen concentration, pH, etc. The phytoplankton from the basic trophic level and are succeeded by the zooplankton as the next level. The population of zooplankton is influenced by the physicochemical characteristics of the body of water and it also changes according to the changes of the variation in the seasons. Here the studies were done mostly during post-monsoon time.

***Study of Phytoplankton:*** Preparation of Phytoplankton Inventory- For studying diversity of phytoplankton, a known amount of water was filtered through bolting Plankton net (No.25)

and preserved in 5 % formalin. Phytoplankton's are to be identified following standard literatures (Anand, 1998) and from help of experts. A Sedgewick-Rafter counting cell was used for numerical analysis of phytoplankton following APHA (1992) and their abundance was expressed as number of individuals per litre of sample collected.

***Study of Zooplankton:*** For qualitative and quantitative study a known amount of water was filtered through bolting silk Plankton net (No. 20) and preserved in 70% alcohol. The zooplanktons are to be identified following standard literature and with the help of experts. A Sedgewick rafter-counting cell was used for numerical analysis and their abundance has been expressed as number of individuals per litre of sample solution.

***Observations:*** The part of river Damodar where proposed mining activity will be done has a narrow water stream of flowing water. Aquatic life specific to this narrow river stream is given below. As states above the fish species available are recorded according to the available information collected from local fishermen. The species mostly collected from the river are Punti (Puntius ticto), Mourala (Amblypharyngodon mola), Mysus tengara (tangra), Ompok pabda (pabda), Notopterus notopterus (Pholui), fresh-water prawn (Macrobrachium idea) etc. Sometimes they can also catch a carp fish like mrigel (Cirrhinus cirrhosis), which is very rare. 10 species of phytoplankton and 8 species of Zooplankton were identified. All the species could not be identified to the species level and therefore, only generic names are given.

**List of Phytoplankton's**

***Table 3.24A:*** Phytoplankton's species list within study area of proposed Mining Lease Area.

| Sl. No. | Scientific name of phytoplankton | Class |
|---|---|---|
| 1 | *Aphanothece sp. Nag.* | Myxophyceeae |
| 2 | *Arthrospira platensis (Nordst.) Gomont.* | Myxophyceeae |
| 3 | *Atasia braviciliata Matv.* | Euglenophyceae |
| 4 | *Chamaesiphon sp. A.Br.* | Chlorophyceae |
| 5 | *Characium nasutum Rabenh.* | Chlorophyceae |
| 6 | *Characium sp. A.Br. ex Kutz.* | Chlorophyceae |
| 7 | *Chlorella sp.* | Chlorophyceae |
| 8 | *Gleocapsa sp.* | Myxophyceeae |
| 9 | *Microcyctis aeruginosa Kutz.* | Myxophyceeae |
| 10 | *Microcystis pulverea (Wood) Forti.* | Myxophyceeae |

**List of Zooplankton**

***Table 3.26 B:*** Zooplankton's species list within study area of proposed Mining Lease Area

| Sl. no. | Scientific Name |
|---|---|
| 1 | *Brachionus caudatus* |
| 2 | *Brachionus diversicornis* |
| 3 | *Brachionus quadridantatus* |
| 4 | *Ceriodaphnia sp.* |
| 5 | *Daphnia sp.* |
| 6 | *Filinia sp.* |
| 7 | *Keratella sp.* |
| 8 | *Moina sp.* |

### 3.10.6. Terrestrial Ecosystem

***Flora:*** Degraded Forest patches on the Beliatore hills of this area can be categorised under Purba Bardhhaman. Tree species dominating in this region are mostly *Artocarpus heterophyllus, Betula anoides, Castonopsis Sp, Gmelina arborea, Michelia champaca, Toona ciliate, Schima Wallichii* etc. During rapid study 77 species of tree, bamboo, shrub, herb and grass species were identified. But there may be much more species within the study area. Most of the domesticated species (both plants and animals)

Bamboo species like Bamboo forests are not natural but occur in patches sporadically in jhum fallows. The common bamboo species are *Dendrocalamus hamiltonii* and *Melocanna bambusoides*. Some other species less frequently found are *Bambusa pallida, Bambusa tulda*, etc. The dominant grass genera in the grasslands are *Panicum sp., Paspalum sp., Imperata sp., Axonopus sp., Sporobolus sp., Saccharum sp., Chrysopogon sp., Oplisminus sp.* and others along with sedges in water-logged areas. Some of these grass species are also present in degraded forests. Besides, this degraded forest floor is also covered with the species like *Eupatorium adenophorum, Lantana camera, Rubus species, Isachne himalaica* etc.

A list of the plant species is given in Table 3.26 (3.26A & 3.26B). The forest fringe area has invasive species like *Eupatorium odoratum, Lantana camara* and *Hyptis suaveolens.* The lists of flora of the study shows that there is no rare, endangered and threatened (RET) species. Therefore, no special conservation effort needs to be taken for maintaining biological composition of the area.

***Table 3.27A:*** Tree and under tree species list within study area of proposed MLA.

| Sl. No. | Scientific Name | Local name | Family |
|---|---|---|---|
| 1. | *Citrus maxima* | Batabilebo | Rutaceae |
| 2. | *Dalbergia sisso* | Sisso | Fabaceae |
| 3. | *Azadirachta indica* | Neem | Meliaceae |
| 4. | *Mangifera indica* | Mango | Anarcardiaceae |
| 5. | *Ficus bengalensis* | Banyan | Moraceae |
| 6. | *Artocarpus heterophyllus* | Kathal | Moraceae |
| 7. | *Alstoniascholaris* | Chatim | Apocynaceae |
| 8. | *Anthocephalus chinensis* | Kadam | Rubiaceae |
| 9. | *Aegle marmelos* | Bel | Rutaceae |

***Table 3.27B:*** Shrub, Herb and Grass species list within study area of proposed MLA.

| Sl. No. | Scientific Name | Local name | Family |
|---|---|---|---|
| **SHRUBS** | | | |
| 1. | *Dioscorea bulbifera* | Khamalu | Dioscoreaceae |
| 2. | *Dioscorea floribunda* | Panalu | Dioscoreaceae |
| 3. | *Tephrosia purpurea* | -- | Papilionaceae |
| 4. | *Vitex negundo* | Began | Vitaceae |
| 5. | *Hibiscus rosa-sinensis* | Joba | Malvaceae |
| 6. | *Clerodendron infortunatum* | Ghentu | Verbenaceae |
| 7. | *Croton bonplandianum* | Chuchhuri | Euphorbiaceae |
| **HERBS** | | | |
| 1. | *Cyperus iria* | -- | Cyperaceous |
| 2. | *Cyperus kyllinga* | -- | Cyperaceae |
| 3. | *Cyperus rotundus* | -- | Cyperaceae |
| 4. | *Dactylocteniumaegypticum* | -- | Poaceae |
| 5. | *Desmodiumtriflorum* | -- | Papilionaceae |
| 6. | *Desmodiumvolubilis* | -- | Papilionaceae0 |
| 7. | *Digitariasanguinales* | -- | Poaceae |
| 8. | *Eclipta alba* | -- | Asteraceae |
| 9. | *Eragrostistenella* | -- | Poaceae |
| 10. | *Euphorbia hirta* | -- | Euphorbiaceae |
| 11. | *Euphorbia microphylla* | -- | Euphorbiaceae |
| 12. | *Evolvulusalsenoides* | -- | Convolvulaceae |
| 13. | *Evolvulusnummularius* | -- | Convolvulaceae |
| 14. | *Fimbristylis japonicum* | -- | Cyperaceae |

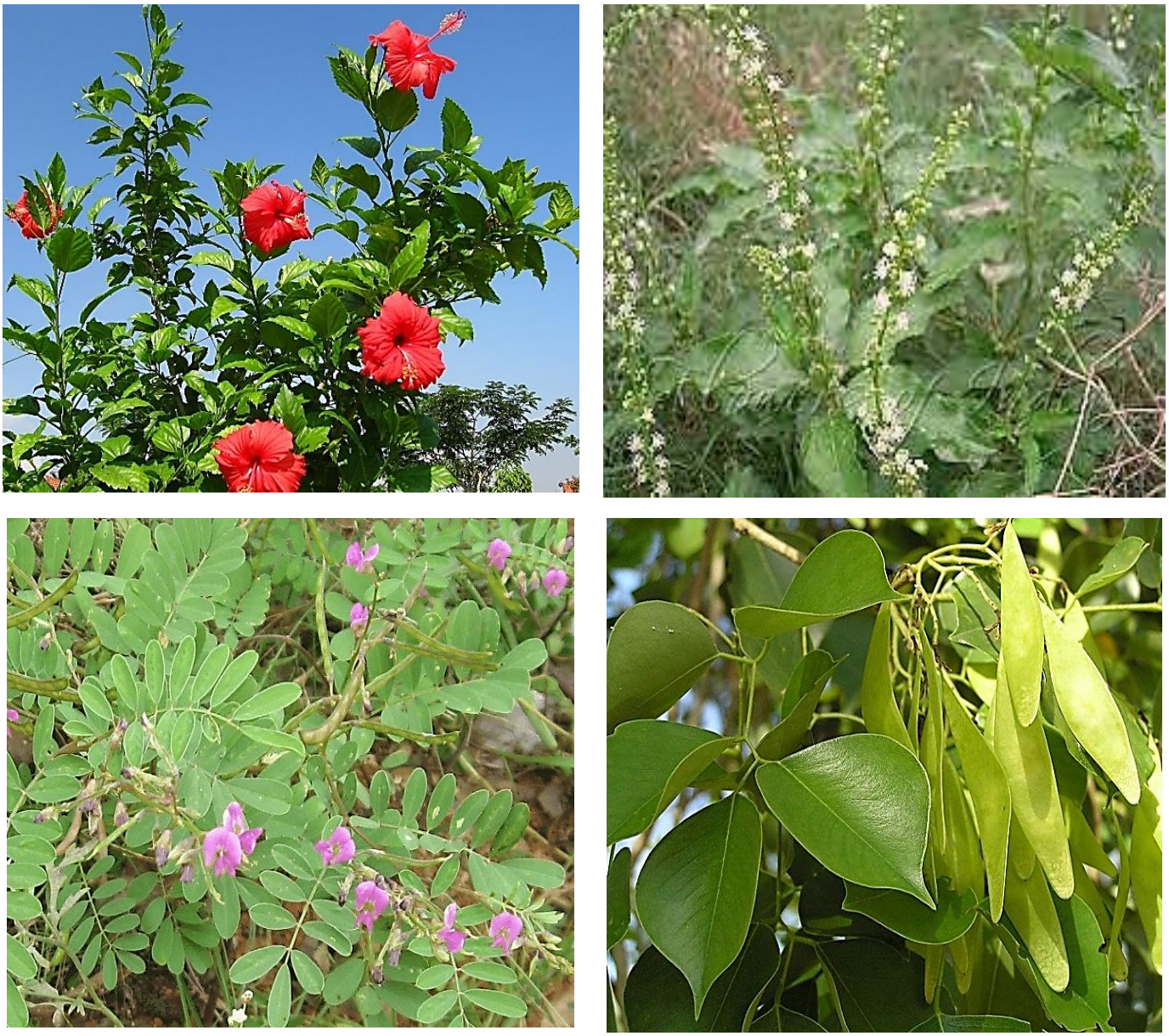


***Figure 3.24:*** Some of the local Flora identified during the exploration of Study Area

**Fauna:** The wild faunal species composition of the study area is given in Table 3.26 (3.26A, 3.26B and 3.26C). This is also not an exhaustive list of the faunal elements of the study area. There are 10 mammalian species, 12 bird species and 10 fish species found in the wild habitats of the area under study. No evidence of habitats or migratory path of large mammals were observed or recorded from statements of the forest dwellers in the study area. The list shows that there is no Schedule – I faunal species and therefore, needs no special conservation effort.

***Table 2.26:*** List of Fauna species within 5km radius of the MLA

| **Phylum: Annelida** | | |
|---|---|---|
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Kecho | *Pheretimaposthuma* |

| **Phylum: Arthropoda** | | |
|---|---|---|
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Prajapati | *Papilio*sp |
| 2 | Moth | *Galleria* sp |
| 3 | Moumachi | *Apis*sp |
| 4 | Jonaki | *Lampyrisnoctiluca* |
| 5 | Arsola | *Periplanetaamericana* |
| 6 | Vimrul | *Vespa orientalis* |
| 7 | Lalpipra | *Oecophyllasmaragdina* |
| 8 | Kakrabicha | *Buthus*sp |
| 9 | Tetulbicha | *Scolopendra*sp |
| **Phylum: Mollusca** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Sthalsamuk | *Acatinafulica* |
| 2 | Jalsamuk | *Pilaglobosa* |
| 3 | Gugli | *Bellamyabengalensis* |
| **Fresh water fishes** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Mrigelmach | *Cirrhinusmrigala* |
| 2 | Bata mach | *Labeobata* |
| 3 | Kalbose | *Labeocalbasu* |
| 4 | Silver carp | *Hypophthalmichthysmolitrix* |
| 5 | Grass carp | *Ctenopharyngodonidella* |
| 6 | Cyprinuscarpio | *Cyprinuscarpio* |
| 7 | Chang mach | *Channagachua* |
| 8 | Sholmach | *Channastriata* |
| 9 | Koi mach | *Anabasatestudineus* |
| 10 | Phaloimach | *Notopterusnotopterus* |
| 11 | Tilapia | *Oreochromismossambicus* |
| 12 | Pabdamach | *Ompokpabda* |
| 13 | Phutimach | *Puntiusticto* |
| **Class: Amphibia** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Kuno bang | *Duttaphrynusmelanostictus* |
| **Class: Reptilia** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Loudaga | *Ahaetullanasutas* |
| 2 | Jaldhora | *Xenochriphispiscator* |

| | | |
|---|---|---|
| 3 | Matiali sap | *Elachistodonwestermanni* |
| 4 | Jamna sap | *Ptyasmucosus* |
| **Class: Aves** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Charaipakhi | *Passer domesticus* |
| 2 | Tuntuni | *Orthotomus*sp |
| 3 | Satbhaya | *Turdoideseaudatus* |
| 4 | Doyel | *Copsychussaularis* |
| 5 | Bulbul | *Pycnonotus*sp |
| 6 | Kak | *Corvussplendens* |
| 7 | Shalik | *Acridotherestristris* |
| 8 | Phinge | *Dicrurousadsimilis* |
| 9 | Kajalpakhi | *Laniuscristatus* |
| 10 | Kat thokra | *Dinopiumbenga* |
| **Class: Mammalia** | | |
| **SL.No** | **Local Name** | **Scientific Name** |
| 1 | Katbirali | *Funambuluspennantii* |
| 2 | Neul | *Herpestesedwardsii* |
| 3 | Mechobiral | *Prionailurusviverrinus* |
| 4 | Katas | *Felischaus* |
| 5 | Khaksial | *Vulpesbengalensis* |
| 6 | Honuman | *Semnopithecus entellus* |

## 3.11. Socio – Economy

Socio – Economic has been recognized as an important component of environment. It focuses primarily on the social and economic effects that are likely to occur as a result of the construction and operation of the proposed mining activities in the area. It includes various factors, viz. demographic structure, availability of basic amenities such as housing, education, health and medical services, occupation, water supply, sanitation, communication and power supply, prevailing diseases in the region as well as features such as places of tourist attraction and monuments of archaeological importance. The study of these parameters helps in identifying predicting and evaluating the likely impacts due to project activity in the surrounding region. Any developmental activity exerts direct, indirect, positive and negative impacts on the socio-economic environment of the region. In this project site of "*Gaitanpur Sand Mine (MIN_EBUR_41)*", the study area of 3Km is considered as a Core Zone and a 10 Km radius is considered as a Buffer Zone. During our exploration and primary data collection, a total of around 19 villages along the sides of the Damodar river.

### 3.11.1 Objectives

Objectives of Socio – economic study as follows:

- To study the demographic structure and facilities available in the study area.
- To identify and assess the impact on socio-economic status of the study area.
- To identify all potential significant adverse and beneficial social impacts of the Project.
- To recommend the mitigation measures to reduce the adverse impact of the project.
- To verify compliance with the environmental regulations and industry's standards.
- To recommend cost effective measures to be implemented to mitigate the expected impact.

### 3.11.2 Data Collection

Primary Data Collection: Primary data means original data that has been collected specially for the purpose. The data collected from the field under the control and supervision of an investigator. This type of data is generally afresh and collected for the first time. It is useful for current studies as well as for future studies. While collecting primary data collection in study area following methods are uses.

1. Observation Method
2. Focus group discussion (FGD)
3. Surveys and questionnaires

Secondary Data Collection: Secondary data is usually the "Data gathered and recorded by someone else prior to and for a purpose other than the current project". Secondary data are collected from different offices or Govt. websites like Census offices (India Census 2011), Statistical department, Health offices, Land and Revenue department, Zilla Parishad and Non-Governmental organizations.

### 3.11.3 Demography

According to the 2011 Census Database, a total of 19 number of villages residing in side the 3 km buffer zone from the project site. In this 3 Km core zone 8,888 household presents with total population of 37,616 person as per census 2011 data. Out of above mention 19 village the Nabagram village population is the highest i.e., 3,719 persons. Gaitanpur near the project area. The average above mention 19 village 21.02 percentage of the total population are children population age less than 6-year-old present in this 3km Core Zone.

***Table 3.27:*** Demography of the Study Area

| SL.NO. | Name of Villages | No. of Households | Total Population | | 0 – 6 Age Pop. | SC Population | | ST Population | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Male | Female | | Male | Female | Male | Female |
| **CORE ZONE (3 KM RADIUS)** | | | | | | | | | |
| **1.** | **BAKTA** | 359 | 760 | 722 | 146 | 398 | 398 | 0 | 1 |
| **2.** | **MASZIDPUR** | 830 | 1773 | 1711 | 391 | 879 | 883 | 86 | 71 |
| **3.** | **DUMUR** | 148 | 281 | 285 | 78 | 215 | 219 | 5 | 6 |
| **4.** | **SONDA** | 334 | 739 | 692 | 177 | 429 | 393 | 0 | 0 |
| **5.** | **SIKARPUR** | 252 | 473 | 474 | 104 | 191 | 198 | 47 | 55 |
| **6.** | **BICHKHARA** | 243 | 527 | 488 | 101 | 326 | 296 | 11 | 10 |
| **7.** | **METEDANGA** | 436 | 964 | 901 | 221 | 429 | 411 | 2 | 3 |
| **8.** | **GARAMBA** | 480 | 1041 | 1000 | 230 | 795 | 747 | 67 | 87 |
| **9.** | **MITHAPUR** | 382 | 852 | 843 | 184 | 467 | 459 | 63 | 78 |
| **10.** | **ATUSHI** | 58 | 97 | 102 | 29 | 37 | 33 | 0 | 0 |
| **11.** | **TAHERPUR** | 142 | 299 | 309 | 75 | 169 | 181 | 0 | 0 |
| **12.** | **GOPALPUR** | 416 | 788 | 766 | 175 | 585 | 603 | 1 | 0 |
| **13.** | **KUMIRKOLA** | 379 | 900 | 831 | 200 | 762 | 695 | 3 | 4 |
| **14.** | **KELETI** | 182 | 422 | 407 | 86 | 295 | 287 | 3 | 2 |
| **15.** | **NABAGRAM** | 3719 | 8078 | 7743 | 1714 | 3637 | 3502 | 1114 | 1124 |
| **16.** | **BICHKHARA** | 243 | 527 | 488 | 101 | 326 | 296 | 11 | 10 |
| **17.** | **DAKSHIN BHASAPUR** | 121 | 299 | 279 | 73 | 283 | 267 | 0 | 0 |
| **18.** | **BANAMALIPUR** | 139 | 343 | 318 | 95 | 258 | 231 | 7 | 5 |
| **19.** | **BELDANGA** | 25 | 53 | 41 | 13 | 53 | 41 | 0 | 0 |

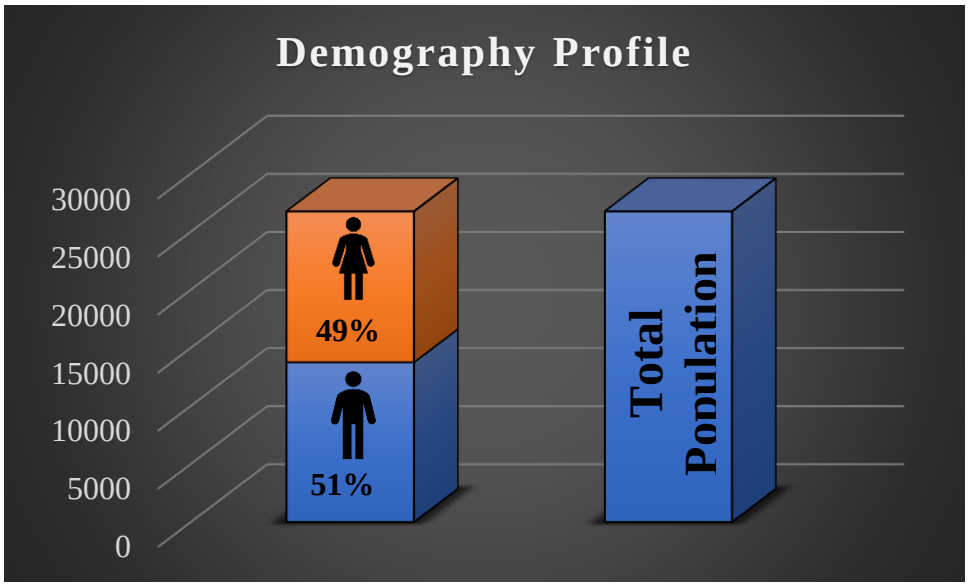



***Figure 3.21:*** Demographic Profile

### 3.11.4 Education

According to census 2011; In the study area, the average literacy rate is 66.6%, whereas out of total literate population the male literacy is 59.84% and female literacy is 40.15% in the study area. The average literacy rate of the state (76.26%) is high as compared to the literacy rate of

study area, the female literacy rate is low in the study area, which is a Pan India phenomenon. The education status has been mentioned in the Table 3.29.

***Table 3.28:*** Literacy Statistics in Study Area

| **Total Households in the Study Area: 8,888** | | | |
|---|---|---|---|
| **Population** | **Person** | **Male** | **Female** |
| Total | 37,616 | 19,216 | 18,400 |
| Literate (3 KM) | 23,109 | 13,133 | 9,976 |
| Illiterate (3 KM) | 14,507 | 6,083 | 8,424 |

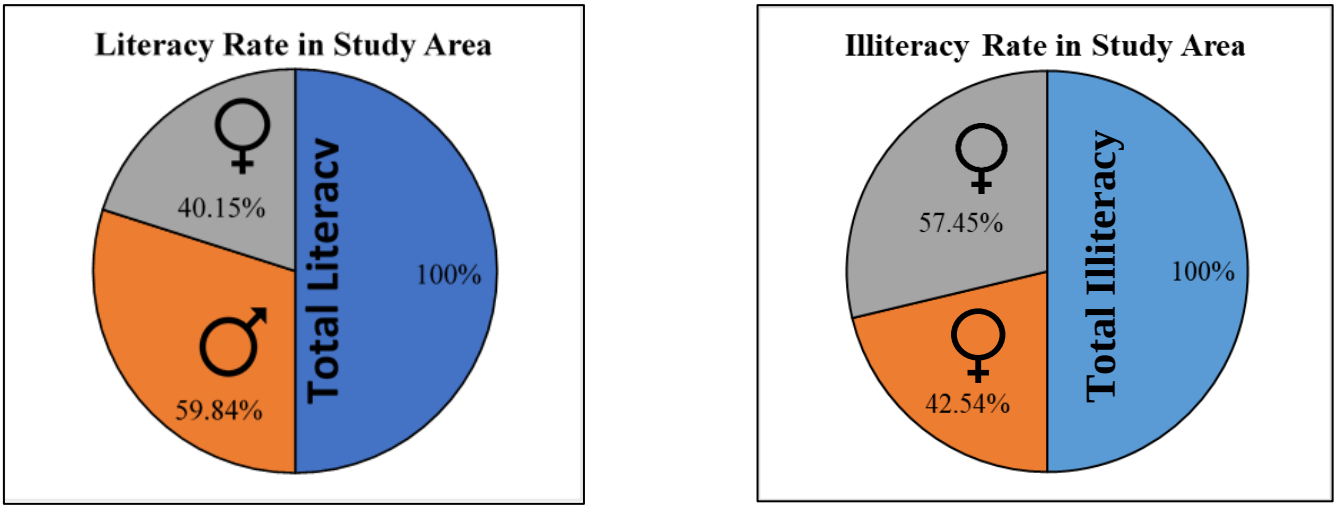



***Figure 3.22:*** Educational Statistics in Study Area

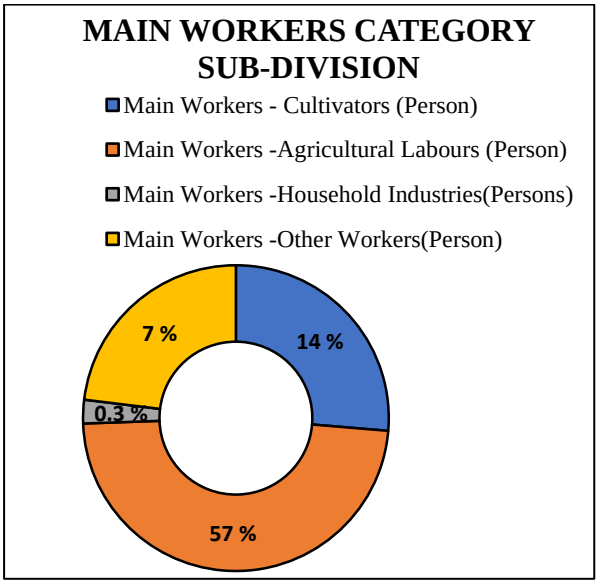
There are about 5 L.P. School and 4 High School present in our study area. The Sonda FP school is about 1.47 km away from the downstream of the mining lease area. Several other school statistics indicates that the locality does encourage and promote female education among the upcoming generations despite what the scenario of 2011 Census Data is representing. Almost all schools in our study area are Bengali medium and run by qualified members of Faculties.



***Figure 3.23:*** Educational Statistics Survey at Bichkhara Free Primary school and Bakta Junior High school

### 3.11.5 Economic Status

Agriculture and daily wage labours are the predominant occupation in the study area. Considering agricultural production, rice are the predominant crops. Some small-scale fisheries or fish farming are also spread in the study area. As dairy offers quick returns and near stable prices, banks may finance liberally ensuring tie-up arrangements with Dairy farms/societies. Banks may also encourage farmers to take up calf rearing and fodder cultivation, as viable activities with financial assistance. Total Workers category of the total population present in 3 km buffer zone are 16,340 Persons i.e., 43.89 % of the total population, out of which 10,141 persons i.e., 26.95% are further specified in Main Workers category. Aforementioned main workers category further specified by 64.05% of Male population main worker and 34.15% are female main worker. The specific Main workers category sub-divisions are presented in figure 1. 48 % Main workers are cultivators followed by other workers category of 13%. The Marginal Workers category of the total population present in 3 km buffer zone is 2,391 persons i.e., 9.97 % of the total populations and 22.71% of the Total worker category. The specific marginal workers category sub-divisions are presented in figure 3.29.



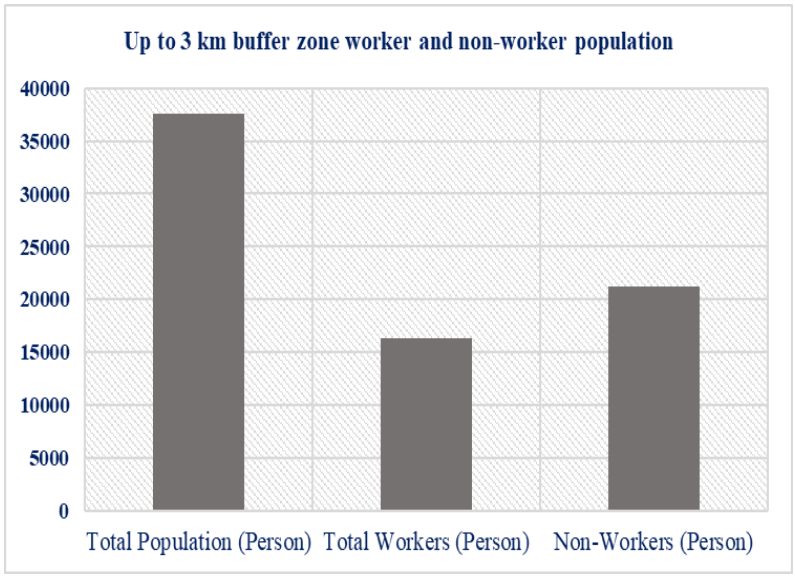




***Figure 3.24:*** Economic Statistics

### 3.11.6 Health Care

There are no hospitals present in our study area but it contains 2 PHC's. The Nabagram PHC and Naldanga PHC is closest from Downstream of project site. The PHC's have 2 qualified doctors posted on duty with a bed no ranging from 6 – 8. As per interactions with locals, the diseases like common fever, malaria, diarrhoea, seasonal flu are the usual challenges they face on their routine. The *Burdwan city* is very close from the proposed project site (23.1 KM North-

East) where all the serious patients like T.B, Cancer, Diabetes etc., are sent for getting intensive care.





***Figure 3.25:*** PHCs Available near the Study Area

### 3.11.7 Infrastructure, Transport & Communication

This section analyses the infrastructure facilities like water supply, roads, markets, banks, post offices, schools and electrification in the study area. The project site is located at Mouza: Gaitanpur, District Purba Bardhaman. Study area and project site is well connected by road to District place. The Basic amenities are all available in the area staring from PHE, School, Market, PHC etc. Electricity is provided by WBSEDCL. Telecom services are handled and run by the BSNL telecom and other private companies. Broadband and wireless internet services are provided by Government as well as private mobile operators like BSNL, Idea, Airtel, Vodaphone and Reliance Jio etc. Table 3.27 provide a brief description of the Infrastructure, Transport and Communication.

***Table 3.27:*** Nearest Communications and Infrastructure from Project site

| S. No. | Amenities | Description | Distance from Project Site |
|---|---|---|---|
| **1.** | Airport | Kazi Nazrul-Islam Airport | 71 KM (NW) |
| **2.** | Railway | Bardhaman Jn Railway station | 6.7 KM (NE) |
| **3.** | Bus stand | Salun Bus Stand | 2.2 KM (SW) |
| **4.** | Police station | Khandaghosh Police station | 12 KM (SW) |
| **5.** | Fire Station | Burdwan Fire Brigade Station | 18.71 (E) |
| **6.** | Hospital | Nabagram PHC<br>Naldanga Goverment Hospital | 2.66 KM (S)<br>7.39 KM (SW) |
| **7.** | Post-Office | Porsura Branch Post Office | 5.92 KM (NE) |
| **8.** | College | Ballar College<br>Bhardhaman Raj College | 16.62 KM (E)<br>19 KM (E) |
| **9.** | Roads | State Highway-8<br>National highway-19 | 5.67 KM (N)<br>3.2 KM (S) |
| **10.** | Infrastructure | Sanko Bridge | 9.27 KM (N) |

# CHAPTER – 4: ANTICIPATED IMPACTS & MITIGATION MEASURES

## 4.1. General

This chapter deals with the expected impacts and the respective mitigation measures of the project on the environment during its lifetime, which has two phases, that is the construction phase and operation phase. It indicates the levels up to which the proposed sand mining projects will benefit the project site by preventing or minimizing adverse environmental impacts.

## 4.2. Introduction

Identification of impacts and mitigation measures of the same in EIA study helps in quantification and evaluation of impacts. During baseline study several impacts can be identified but it is necessary to identify the critical impacts both positive and negative on various components of the environment that are likely due to the proposed sand mining projects.

The environmental impacts can be categorized as either primary or secondary. Primary impacts arethe ones that are caused directly due to the project activity on environmental attributes, whereas secondary impacts are indirectly induced. The construction and operation phase of the project activity comprises various activities, each of which may have either positive or negative impact on some or other environmental attributes. The proposed project activities would impart impact on the environment in two distinct phases:

- During construction phase - Temporary or short -term impact
- During operation phase - May have long term impact

The construction and operation phase of the project comprises of various activities each of which willhave an impact on some or other environmental parameters. Various impacts during the construction and operation phase on the environmental parameters have been studied to estimate the impact on environment. The details on impact of the project activity on each of the above environmental attributes are discussed in the following sections.

## 4.3. Impact Assessment during the Construction Phase

Since the project is sand mining activity, no major construction activities are proposed. Therefore, there will not be any environmental impact in terms of construction phase.

## 4.4. Impact Assessment during the Operating Phase

### 4.4.1. Impact on Land Environment

- On the Damodar River bed, the sand mining does not carry any overburden / waste.
- There will not be any land degradation due to sand mining.
- The mining lease area is bearing no soil cover exposure; hence storage of top soil will not be required.
- There is no overburden / waste left to manage at the end of mining activity, the entire mineral is saleable.
- The sand is loose deposit, hence blasting and drilling are not required.
- The Mining lease area doesn't involve any forest & agricultural land.
- There is no vegetation within the mining lease area.
- The topography of the river bed will temporarily change due to the mining of sand which leads to depression within the lease area.
- Since the mining will be executed only within the mining lease area, there will not be any change in the topography of outside the mining lease area.
- The proposed mining project will not change or divert the natural drainage.
- Some minor erosion of the river bank due to haulage road and unsystematic mining operations will.
- The unsystematic mining operations can result in the instability of natural slope.
- There will be temporary change in the land use due to excavation process, however the area will be naturally reclaimed in the subsequent monsoon seasons.
- Mining activities increases the depth which increases the flow velocity of river and then bank erosion.
- The propose project falls under the seismic zone – III (Moderate Intensity zone). Since this project will not have physical infrastructure to be constructed, no impact of seismicity is envisaged in this project.Further, this project will not change/alter the seismic behaviour of the area.
- Spillage/leakage of oil, diesel etc. from the DG sets, vehicles and equipment's results in land/soil contamination.

### 4.4.2. Impact on Air Environment

***a) Anticipated Impacts on Air Environment:***

- The major sources of air pollution from the proposed mining project are dust generation due to extraction, loading and haulage of mineral and wind erosion of

exposed material.

- Impacts on ambient air due to the emissions from operation of DG sets only during power failures.
- Exhaust emissions from vehicles and equipment deployed during the operation phase is alsolikely to result in an increase in the levels of $SO_2$, NOx, PM, CO and un-burnt hydrocarbons.
- The dust generation will affect the health of the workers as well as the nearby habitation/local population.

- **Meteorological data**

The meteorological data at hourly interval during the month of October 2023 to December 2023 on wind speed, wind direction, dry & wet bulb temperature, humidity, cloud cover and rainfall was processed as per the guidelines of CPCB/MoEF for prediction of impacts from the area source. Data was obtained from authorized source / government agency for the dispersion modelling. It was observed that East followed by North east was pre-dominant wind during Post monsoon season as shown in wind rose below and 0.18 % calm condition was observed during study period. Average wind speed was 4.53 m/s. Impact of the pollutants was anticipated in East and North East side under influence South and South Western winds. Ambient air quality locations were selected based on the long-term wind rose pattern of the area. The wind rose diagram of October 2023 to December 2023 is given in Figure 4.1. Four ambient air quality sampling locations were finalized to study the baseline status around the proposed site and to study impact at various locations. 24-h maximum impact of $PM_{10}$ & $PM_{2.5}$ was envisaged in southwest side at very short distance from the site.

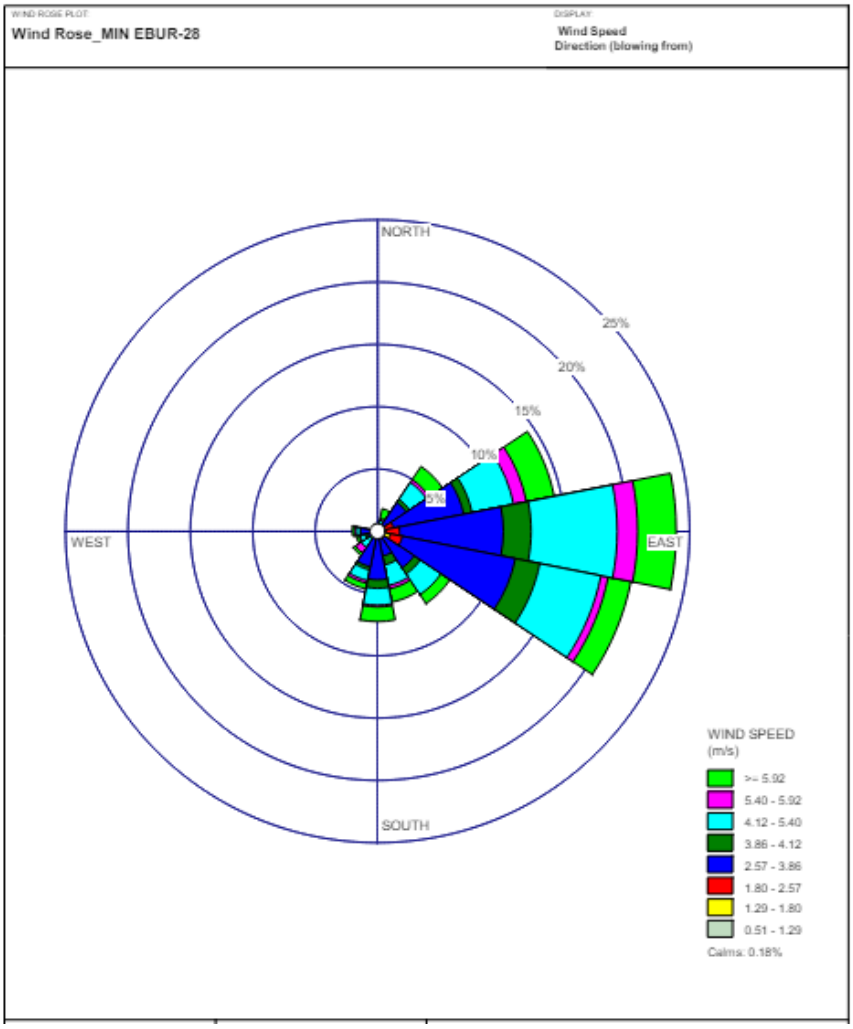



**Figure 4.1:** Windrose Diagram (October 2023 to December 2023)

### 4.4.3. Impact on Water Environment

- The mining process will not distract and utilize the surface & ground water.
- The water flow in the study area is rain fed in nature and its level increases aggressively during the monsoon period only, rest of the year the river bed remains open for mining.
- There will not be any impact on the quality of ground water since the depth of water table in the tube well outside the area is 20m from general pit level.
- Affects the recharge potential of ground water, as the thickness of the natural filter (sediments) reduces it will lead to less infiltration
- Spillage/leakage of oil, diesel etc. from the DG sets, vehicles and equipment's results in the surface/ground water contamination and this will also affect the health of the population by the consumption of contaminated water
- Seepage of wastewater and storm water will lead to contamination of water.
- Washing of vehicles on river bed will contaminate river water leading to water pollution.

### 4.4.4. Impact on Noise Environment

- As the mining project is proposed for open cast manual mining operation and sand available in the study area are loose deposit, there will not be any blasting or drilling activities required.
- Impact of noise due to vehicular movement and machineries/equipment.
- Noise generation due to the operation of the DG sets during the power failures.
- These noise generation will create a negative environmental impact on the workers and local population close to the project site.

### 4.4.5. Impact on Eco – Biodiversity

There will be no major adverse impact of this mining activity on the biological environment of the study area. Minor impacts of sand mining activity on biological environment may mostly confine to the area where storage and transport of the sand will be done. In the mining plan no such area has been identified. Some impacts on human health may be due to enhanced air-borne particulate matter. The source of solid particulate matter (SPM) of different sizes will be mostly the stacks of sand. Trucks for carrying sand may also add SPM in the air due to vehicular pollution.

Another negative impact that can affect the species composition of the aquatic species Damodar river, particularly in the area from where sand will be mined is decline in species number of both aquatic fauna and flora. Dependence of some people on the fishing, may be affected to some extent due to riverbed mining. During mining operation aquatic flora may be eliminated locally. As aquatic fauna like fish etc., is mostly dependent on aquatic flora, it is very likely that there will negative impact on fish availability during mining.

### 4.4.6. Impact on Socio – Economics

- For the mining work, an average of 47 construction workers will be required in the project sites, which will be met from skilled and un-skilled labourers from the local population as far as possible. Thus, the project can provide employment to local workers for a period of 5 years.
- There is no human settlement in or around the mining block areas, hence no clearance of human settlement is required for the mining operation.
- The project site falls in the riverbed of Damodar River, which is free of any Human Settlements.
- The Nayagram market are in few hundred metre range of the project site.

- There will be a significant increase in traffic density which might interrupt daily activities among the local community.
- The Proposed Mining have opted for manual method which will have health related impacts on the workers.

## 4.5. Mitigation Measures during Operational Phase

### 4.5.1. Impact Mitigation measures on Land Environment

- Present land use pattern of the proposed mining lease area is river bed and at the conceptual stage the land use pattern will remain the same, hence will not be changed.
- The excavated area will be replenished by sand in the subsequent monsoon seasons.
- Mining activity will be completely stopped in the monsoon season and during night hours.
- Safety zone will be left from the bank of the river and water line for the stability of the river bank.
- Barrier zones will be maintained from the banks for stability of the river banks.
- Extraction of minor mineral (Sand) will be done through opencast manual mining method.
- Mineral will be removed in 1-3 m layer only forming in one slice /strips and the width shall be more than 6 m the bench height or 3 times of widest m/c used
- All hazardous wastes such as the spent oil/lube oil shall be securely stored, under a shed foreventual transportation and disposal to the authorized hazardous waste dealers.
- No DG sets are required for the mining activity since it will be strictly restricted to Daytime and manual mode of operations.

### 4.5.2. Impact Mitigation measures on Air Environment

- Checking of vehicles and machinery to ensure compliance to Indian Emission Standards Transportation vehicles and machinery to be properly and timely maintained and serviced regularly to control the emission of air pollutants in order to maintain the emissions of $NO_x$ and $SO_x$ within the limits established by CPCB.
- Dust suppression by water sprinkling in and around the project mining lease area.
- Minimize idling time for vehicles and adequate parking provision and proper traffic arrangement for smooth traffic flow.
- Appropriate spill control measures and labelling / handling procedures shall be maintained

- Vehicles with valid PUC shall be used for transporting the minerals to avoid the exhaust emission.
- A greenbelt development plan is prepared with local species. The greenbelt on the periphery will reduce the dust levels
- Regular monitoring of the air quality as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the air quality is within the desired limits prescribed by CPCB.
- However, the operation activities will be for a period of 5 years and hence, its impact on the existing ambient air quality will be reversible. Dust emissions are likely to be confined within the mining lease areas.

### 4.5.3. Impact Mitigation measures on Noise Environment

- No noise polluting work shall be carried out in the night hours.
- Provision of PPE‟s for the workers.
- Vehicles to be serviced regularly and maintained properly to avoid any unwanted generation of noise or vibration from them
- Green belt and garden trees reduce noise, traffic related pollution and heat island effect
- If any DG sets required at site, then it shall be provided with acoustic enclosure
- Proper lubrication, muffling and modernization of equipment shall be used to reduce the noise during operation phase
- Regular monitoring of the noise levels as per the monitoring plan detailed in Chapter 6 of this EIA report, shall be adopted during the operation phase, to ensure that, the noise levels are within the desired limits prescribed by CPCB.

### 4.5.4. Impact Mitigation measures on Water Environment

- Provision of temporary toilets for laborers at the study area.
- Domestic waste water will be treated into septic tank followed by soak pit outside of the block area with a safe distance and no wastewater will be allowed to be get discharged into the water body.
- The depth of the water table in the tube well outside the proposed mining lease area is 2.45 m from the general pit level. The proposed mining during the 5 years shall be done 1.40 m from the surface. Therefore, the mining operation expected to be 1.05 m above the water table,hence mining will not intersect the ground water table.
- No mining will be done in the water line, only dry river bed mining will be done.

- No other mining of minor mineral shall be done within 500 m meter distance from any irrigation dams and bridge on national Highway.
- Bench will be advanced parallel to the banks of the river.
- Mining will be stopped in the area where water line is encountered.
- Barrier zones will be maintained from the banks for stability of the river banks.
- Separate area will be allocated for the washing of vehicles to avoid the seepage of contaminated water into the water body.
- All hazardous wastes such as the spent oil/lube oil shall be securely stored, under a shed foreventual transportation and disposal to the authorized hazardous waste dealers.
- The oil, diesel etc. from the vehicles and equipment's will be stored in a secured area andappropriate spill control measures and labelling / handling procedures shall be maintained.

### 4.5.5. Impact Mitigation measures on Eco – Biodiversity

There is no information in the mining plan regarding the stacking area and road for transport of minerals from the river bed. Therefore, designing proper biological method pollution mitigation plan on both the sides of the road on which mineral transport is not possible. However, it is suggested that at least 5370 trees of the following species may be planted on both the sides of the road of transport as well as in the stacking area to arrest most of the SPM which may be generated during mining and transport process. The plant species suggested are indigenous tree species with broad leaves or thick canopy. Mostly quick growing species are being suggested as the mining operation will be for 5 years only. There is no need for any sort of compensatory afforestation as no natural habitat like forests or plantations will be cleared.

### 4.5.6. Impact Mitigation measures on Socio - Economy

- Employing local people for construction work.
- Providing proper facilities for sanitation for the construction workers such as temporary toilets.
- Barricades, fences and necessary personnel protective equipment shall be provided to the construction workers.
- The health of workers will be checked for general illness; first time upon employment and thereafter at periodic intervals, as per the local laws and regulations.
- Immigration in search of employment will be controlled.

- Expectations in fair pay, employee care, social responsibility commitments etc. will be timely met.
- Training will be provided to non-workers and unskilled workers.
- Awareness program to motivate people for savings and investment.
- Awareness program related to health and the Govt. Welfare schemes.

# CHAPTER – 5: ANALYSIS OF ALTERNATIVE SITE

## 5.1. No Project Scenario

No – Project scenario is not applicable as the Sand from the lease area has to be mined out to make it available for infrastructure and developmental activities. Moreover, the riverbed sand is a natural resource which gets replenished every year. So, scientific removal of riverbed sand for infrastructure activities will not have any major impact on the environment. In addition, scientific removal of the riverbed sand will also ensure growth the local economy and provide employment opportunities to the local people.

## 5.2. Analysis of Alternative Site

Mining of riverbed sand depends on its availability depending on the mineral deposition of the area. The proposed project is for the scientific removal of riverbed sand from the Damodar River Bed. The sand is very well exposed in the proposed mining area. The rate of mining will be based on the replenishment study report prepared by the Department of Mining and Geology, West Bengal.

## 5.3. Alternative Technology

Sand is very well exposed in the proposed mining area and open cast is the only method which can be followed to work the deposits.

The proposed mining lease area will undergo semi mechanized opencast method of mining. The depth of working will be 1.40 m to facilitate semi mechanized working. Mining will be carried out in granted mining lease area as per the Approved Mining Plan. The proposed technology was approved by the Department of Mines & Geology, Govt. of West Bengal and the technology will not undergo any changes or modifications during the operational phase of the mining activities.

# CHAPTER – 6: ENVIRONMENTAL MANAGEMENT PROGRAM

## 6.1. Introduction

Regular monitoring of the various environmental parameters is necessary to evaluate the effectiveness of the management programme so that the necessary corrective measures can be taken in case there are some drawbacks in the proposed programme. Since environmental quality parameters at work zone and surrounding area are important for maintaining sound operating practices of the project in conformity with environmental regulations, the post project monitoring work forms part of Environmental Monitoring Program. The objectives of

monitoring are to:

- Verify effectiveness of planning decisions;
- Measure effectiveness of operational procedures;
- Conform statutory and corporate compliance; and
- Identify unexpected changes

## 6.2. Environmental Monitoring and Reporting Procedure

Post Monitoring of various environmental parameters will be carried out on regular basis to ascertain the following:

- Status of Pollution within the mine site and in its vicinity.
- Generate data for predictive or corrective purpose in respect of pollution.
- Examine the efficiency of pollution control system adopted at site.
- To assess environmental impacts.

Monitoring will be carried out at site as per the norms of CPCB. Environmental Monitoring Programme will be conducted for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by MoEF&CC and consent to operate issued by SPCB.

Six monthly compliance reports will be submitted to MoEF&CC, regional office on 1st of June and 1st of December. Quarterly compliance Report for conditions stipulated in Consent to Operate will be submitted to SPCB on regular basis. 4. Post study monitoring programme is summed up in Table 6.1.

***Table 6.1:*** Environmental Monitoring Programme

| Aspects | Parameters to be monitored | Frequency of Monitoring | Locations |
|---|---|---|---|
| Air Quality | $PM_{10}$, $PM_{2.5}$, $SO_2$, $NO_2$, Silica | Once in 6 months | 2 locations within the project site and 2 locations outside the project site. |
| Noise Levels | $L_{eq}$, $L_{day}$, $L_{night}$ | Once in 6 months | 2 locations within the project site and 2 locations outside the project site. |
| Soil Quality | Soil Profile, Chemical Constituents, | Once in 6 months | 2 locations within the project site. |
| Water Quality | As per IS:10500-2012 | Once in 6 months | 4 locations outside the project site, 2 surface water and 2 ground waters. |

## 6.3. Budgetary Provision for Environmental Management.

The monitoring of the environment parameters will be outsourced and carried out by the lab of SPCB or a lab approved by MoEF/NABL. The cost of environmental monitoring is worked out and is detailed in Table 6.2.

***Table 6.2:*** Cost of Environment Monitoring

| Sl. No. | Particulars | No. of locations | Rate per location | No. of samples per year per location | Total Rate |
|---|---|---|---|---|---|
| 1 | Ambient Air | 4 | ₹ 12,500 | 2 | ₹ 1,00,000.00 |
| 2 | Noise level | 4 | ₹ 12,500 | 2 | ₹ 1,00,000.00 |
| 3 | Soil | 2 | ₹ 12,500 | 2 | ₹ 50,000.00 |
| 4 | Ground Water | 2 | ₹ 12,500 | 2 | ₹ 50,000.00 |
| 5 | Surface Water | 2 | ₹ 12,500 | 2 | ₹ 50,000.00 |
| **Total (in Rs)** | | | | | **₹ 3,50,000.00** |

## 6.4. Conclusion

Post Environmental monitoring is an essential step in the EIA process. Environmental indicators could contribute to designing and evaluating monitoring programs, thus improving the establishment of the cause-effect relationship and the reporting and communication of environmental data.

The Environmental Monitoring Cell will coordinate all monitoring programmes at the site and data thus generated will be furnished as per statutory requirements. The frequency of reporting will be on half yearly basis to the WBSPCB and to the Regional Office of MoEF, West Bengal. The Environmental audit reports will be prepared for the entire year of operations and will be regularly submitted to regulatory authorities.

# CHAPTER – 7: ADDITIONAL STUDIES

## 7.1. ADDITIONAL STUDIES

The draft EIA as per the EIA notification dated 14/09/2006 and subsequent amendments is being submitted to SPCB for conducting a public hearing for the proposed mining within the ML area located in Gaitanpur Mouza of Birbhum district of West Bengal. The report will be updated after conducting the public hearing by SPCB with the concerns/suggestion of people and stake holders who would attend the public hearing.

## 7.2. Corporate Environment Responsibility (CER)

In order to improve the quality of life of nearby villagers of the proposed project area, amount of Rs. 1.18 Crore which is 2% of the total cost (Rs. 58.35 Crore of project shall be spent under the guidance of District/Local authorities as per MoEF&CC Notification for CER activity dated 01.05.2018 and 30.9.2020) As a corporate responsibility following measures along with budget provision is proposed for improving the conditions of persons in and around the project area:

***Table 7.1:*** Yearly CER Budget

| **CER BUDGET** | | | | |
|---|---|---|---|---|
| **S. No.** | **Activity** | **No. of Unit** | **Per Unit Cost** | **Total Cost** |
| **1.** | Provisions for Imparting vocational training at near village for technical skills, self-employment training for women | **-** | **-** | **2,50,000.00** |
| **2.** | Fund Donation to the nearby local LP or High School for their Infrastructural Development. | **-** | **-** | **5,70,000.00** |
| **3.** | Energy Conservation i.e., Distribution of LED Bulbs | **400** | **650** | **2,60,000.00** |
| **4.** | Organization of Health Camps Provisions for Health Check-up camps (Eye & General Health Check-up) at Gram Panchayat of | **-** | **-** | **9,00,000.00** |
| **5.** | Distribution of Sanitary Napkins, Contraceptives etc. | **-** | **-** | **3,20,000.00** |
| **Total Cost (INR)** | | | | **23,00,000.00** |

## 7.3. Risk Assessment

Risk is the probability of harmful consequences or expected losses resulting from the interaction between natural or human induced hazards and vulnerable conditions. Risk assessment is a methodology to determine the nature and extend of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, livelihood and the environment on which they depend. The objectives of risk assessment are:

→ Assessing risk levels due to the mining of sand.

→ Identification of the risk mitigation measures to bring the potential risk within the acceptable range.

→ To suggest general safety improvement measures.

→ To identify emergency scenarios and suggest mitigation measures.

It is necessary to manage the risk to minimize the after effects or losses to be confronted. Risk management refers to the practices, policies and procedures designed to minimize or eliminate the unacceptable risk. It is helpful to think of risk management as being a process of determining the exposure to risk, and the initiating action to either minimize or eliminate the risk. The Risk Assessment and Management Plan is to be implemented to eliminate the risk and its consequences on the proposed sand mining project. Risk analysis is done for the following reasons:

⇒ Forecasting any unwanted situation.

⇒ Estimating damage potential of such situation.

⇒ Decision making to control such situation.

⇒ Evaluating effectiveness of control measures.

## 7.4. Hazard Identification

Hazard identification is a tool for conducting the risk assessment for the identification and detailing of hazards that exists. The hazard identification is done prior to the consequence analysis and serves as the core base of information on which risk assessment is based. The basic principle of risk analysis depends on the type, cause, consequences and frequency of expected risk. The hazard and risk assessment aims to identify key Environmental, Health and Safety hazards, risk associated with the operational phases of the sand mining project.

### 7.4.1. Natural Hazards

***Extreme Weather (Cyclone/Storm/Storm Surge):*** The effect of extreme weather would most likely be a disruption of vital services such as water, sewer, power and transportation; damage to and disruption of emergency response facilities, resources and systems. As per the Vulnerability atlas of cyclone frequency and wind hazard map, the project sites fall in the High Damage Risk Zone – B as per BMTPC as shown in Fig 7.3 below.

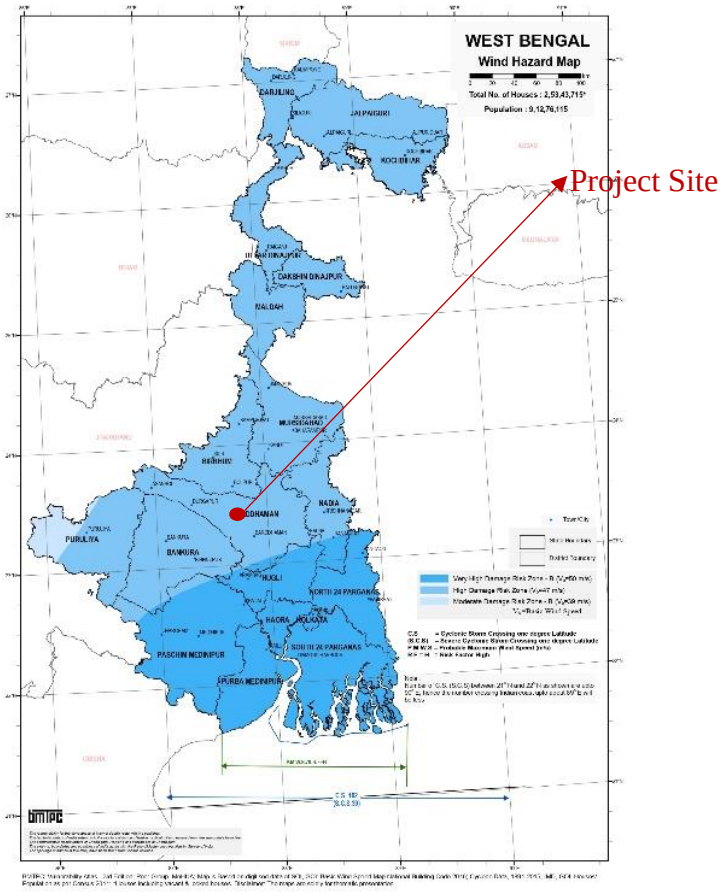



***Figure 7.3:*** Wind Hazard Map of West Bengal (Source: BMTPC)

***Flooding:*** Floods constitute one of the most potentially serious hazards. District authorities will be handling such situations. The project location is a very vulnerable point for flood. The area witnessed many floods related problems as the river almost every year overflows. The area receives an average of more than 3000 mm of rainfall annually.

***Earthquake:*** An earthquake is the sudden motion or trembling in the earth caused by an abrupt release of slowly accumulating strain. This sudden release results in ground shaking, surface faulting, and/or ground failures. According to the Seismic Zoning Map of India and BMTPC, the proposed project site falls in Moderate Damage Risk Zone (Zone – III).

### 7.4.2. Technological Hazards

The proposed project is not including any process or manufacturing activity. Proposal is about the sand mining project for the construction purposes.

## 7.5. Anticipated Risk Impacts & Mitigations

### 7.5.1. Likelihood Assessment

For the purpose of risk assessment, the risk likelihood levels have been used. The Risk Likelihood Levels are given in Table 7.2.

***Table 7.2:*** Likelihood Assessment

| Risk Levels | Likelihood | Qualitative Description |
|---|---|---|
| **A** | **Almost certain** | The event is expected to occur; event will occur on an annual basis or more frequent |
| **B** | **Likely** | Probably that will occur; event has occurred several times before at similar developments |
| **C** | **Possible** | May or may not occur; event may occur once during the life of the development |
| **D** | **Unlikely** | The event may occur at some time but is unlikely; heard of happening from time to time at similar developments |
| **E** | **Rare** | The event may occur in exceptional circumstances; not heard of at similar developments |

### 7.5.2. Consequence Assessment

For the purpose of the risk assessment, the risk consequence levels have been used. The Risk Consequence Levels are given in Table 7.3.

***Table 7.3:*** Consequence Assessment

| Risk Levels | Consequence | Qualitative Description |
|---|---|---|
| **1** | **Insignificant** | ***People:*** Event does not result in injury (no medical treatment required)<br>***Environment:*** No damaged<br>***Property:*** No damage |
| **2** | **Minor** | ***People:*** Reversible injury or illness<br>***Environment:*** Minor impact of short duration or short-term damage<br>***Property:*** Minor damage |
| **3** | **Moderate** | ***People:*** Irreversible disability or impairment to one or more persons<br>***Environment:*** Short – term damage resulting in complaints, localized impact<br>***Property:*** Moderate damage |

| | | |
|---|---|---|
| **4** | **Major** | ***People:*** Severe injuries to one or more persons, single fatality<br>***Environment:*** Significant impact locally and potential for off-site impacts<br>***Property:*** Major damage |
| **5** | **Catastrophic** | ***People:*** Multiple fatalities or irreversible injuries<br>***Environment:*** Significant impacts to regional ecosystems and threatened species potential for widespread off-site impacts<br>***Property:*** Significant loss |

### 7.5.3. Standard Risk Assessment Matrix

The standard risk assessment matrix for the proposed mining of sand from Damodar river at Purba Bardhhaman District in West Bengal is developed on the basis of the risk likelihood and consequences levels. The Standard Risk Assessment Matrix is given in Table 7.4.

***Table 7.4:*** Standard Risk Assessment Matrix

| **RISK MATRIX** | **CONSEQUENCES** | | | | |
|---|---|---|---|---|---|
| **Probability** | Catastrophic (Irreversible, permanent) (5) | Major (Long term) (4) | Moderate (Medium term) (3) | Minor (Short term, manageable) (2) | Insignificant (Manageable) (1) |
| Almost certain (5) | Extreme (25) | Extreme (25) | High (15) | Medium (10) | Medium (10) |
| Likely (4) | Extreme (20) | High (16) | High (12) | Medium (8) | Low (4) |
| Possible (3) | High (15) | High (12) | Medium (9) | Medium (6) | Low (3) |
| Unlikely (2) | Medium (10) | Medium (8) | Medium (6) | Low (4) | Low (2) |
| Rare (1) | Medium (5) | Low (4) | Low (3) | Low (2) | Low (1) |

### 7.5.4. Risk Assessment Matrix & Mitigation Measures

The major probable hazards during the operation phase are natural calamities such cyclone, shore erosion, earthquake etc. and other calamities like the spillage or leakage of fuel/oil, mining equipmentand machinery etc. The risk assessment matrix and its mitigation measure are given in Table 7.5.

***Table 7.5:*** Risk Assessment and its Mitigation Measures

| **Anticipated Hazards** | **Significance of Impact** | **Mitigation Measures** |
|---|---|---|

| | | |
|---|---|---|
| Accidents due to Vehicular Movement | High (12) | • All transportation within the main working should be carried out directly under the supervision and control of the management.<br>• The Vehicles will be maintained/ repaired and checked thoroughly by the competent person.<br>• A statutory provision of constant education, training etc. will go a long way in reducing the incidents of such accidents.<br>• Overloading will not be permitted and will be covered with tarpaulin.<br>• The maximum permissible speed limit will be ensured.<br>• The truck drivers will have valid driving license. |
| Material handling and Loading | High (12) | • The truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.<br>• The loading should be done from one side of the truck only to avoid over throw of materials.<br>• The workers should be provided with gloves and safety shoes during loading<br>• All the activities will be done under strict supervision/control to avoid anticipated accidents so that the risk is reduced to a level considered As Low as Reasonably Practicable (ALARP) conditions which are adequately safe and healthy. |
| Natural Hazard (Earthquake, Flood, Cyclone) | Medium (10) | • Management practices shall be adhered to the Natural Disaster, Strategy/Emergency, Response Procedures.<br>• Ensure emergency supplies are located above foreseeable flood level<br>• Management practices shall be adhered to the Natural, Disaster Strategy/Emergency, Response Procedures. |
| Health and Hygiene | Medium (8) | • Provide medical centre for medical care required in theevent of a disease outbreak.<br>• Necessary precautions shallbe adopted to prevent and manage the source of spreading. |

It can be concluded that, the risks assessed during the operation phase of the proposed mining project of sand at Damodar River under Gaitanpur Block are medium. The project proponents are proposed to implement all the mitigation measures to prevent the impact or consequences of the risk expected to be happened in the project site.

## 7.6. Disaster Management Plan

Disaster Management planning is an integral and essential part of loss prevention strategy. The natureof the proposed project is such that these are minimal chances of accidents. The project operations do not entail any risk or hazard. However, there still remains a small possibility that

disaster may occur. Effective action has been possible due to existence of pre – planned and practiced procedures for dealing with emergencies. The Disaster Management Plan to be implemented in the event of an emergency and also sets out the procedures and measures to be taken into account in the event of loss of containment and consequence thereof in the proposed sand mining projects. It is intended to apply these regulations:

- To develop a Disaster Management Plan (DMP) that should be concise and informative so that members of the emergency control organization should be able to quickly refer to the action plan to determine important functions that are being carried out;
- To manage an emergency by use DMP just as reference material for training and shall be made applicable;
- To reduce damage to property, machinery, public and environment;
- To develop a state of readiness for a prompt and orderly response to an emergency and toestablish a high order of preparedness (equipment, personnel) commensurate with the risk;
- To provide an incident management organogram with clear missions and lines of authority (incident command system, field supervision, unified command);
- To ensure an orderly and timely decision-making and response process (notification, standard operating procedures);
- To maintain good public relations.

# CHAPTER – 8: PROJECT BENEFITS

## 8.1. Introduction

This chapter gives a comprehensive description of various advantages and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole.

The Sand has become a very important mineral for our society due to its many uses. It can be used for making concrete, filling roads, building sites etc. The role of Sand is very vital with regards to the protection of the coastal environment. It acts as a buffer against strong tidal waves and storm surges by reducing their impacts as they reach the shoreline. This sand is taken from the bed of Damodar River, which is a replenishing resource. The mined-out material from this mine can be good source of construction material to nearby market. Provide gainful employment generation through development of the associated down-stream industry i.e., stone-crushers, screening plants, washeries, transport services etc. Serve as source of revenue for the State.

## 8.2. Benefits in Physical Infrastructure

This project will provide various improvements in the physical infrastructure of adjoining area such as:

- Improved Road communication system in villages in adjoining area.
- Strengthening of existing community facilities through the existing Community Development Programme;
- Awareness program and community activities, like health camps, medical aids, family welfare programs, immunization camp sports & cultural activities, plantation etc.

## 8.3. Benefits in Social Infrastructure

The proposed project is expected to provide employment to local people in different activities such as Mining, sizing, transportation and plantation activities. The project activity will not have any major impact on the environment. Since the project site falls in a riverbed, The Plantation program for greenbelt will be carried out by the project proponent with coordination with the Local Government. The project proponents have Corporate Environmental Responsibility initiatives which will have a positive impact on socio economic fabric of the region.

### 8.3.1. Employment Potential

The local labour shall be engaged for the purpose of mining of mineral, loading & unloading of mineral besides, watch and ward and plantation activity with proper maintenance on assumption that one man on and average can extract load & unload 5 to 6 tonnes of material per man-day and the same amount will be handled through machines. Approximately 14 – 30 semi-skilled and Unskilled laborers from local people will be employed directly and 1 – 2 persons indirectly including Mines Manager, in the project. This will help in the improvement of financial condition of the area. There will be positive impact in socio-economic area due to increased economic activities, creation of new employment opportunities, infrastructural development and better educational and health facilities.

### 8.3.2. Health Benefits

The Project proponent will undertake awareness program and community activities like health, camps, medical aids, family welfare camps, AIDS awareness program etc. Periodic medical check-ups as per Mines Act/ Rules and other social development and promotional activities will be undertaken. All this will assist to lift the general health status of the residents of the area around mines.

### 8.3.3. Plantation Program

Plantation will be done by the project proponent by coordinating with the local government to mitigate the ill-effects of mining and to improve the vicinity and environment of mine and it surrounding area. The management will give emphasis on plantation and will also motivate local persons for plantation during rainy season. This will also increase the consciousness in workers and nearby villagers for greenery. Fruit trees can contribute towards their financial gains.

Apart from all the above-mentioned benefits there will be other benefits to the region in terms of upgradation of lifestyle, overall area development etc.

# CHAPTER – 9: ENVIRONMENTAL COST BENEFIT ANALYSIS

As per EIA Notification vide Gazette Notification No. S.O. 1533 Dt: 14th September, 2006 and amendments thereof, Appendix III, Generic Structure of EIA, SL. No. 9, "Environmental Cost Benefit Analysis" is applicable only, if the same is recommended at the Scoping stage.

As per the TOR points issued SEIAA WEST BENGAL in vide File no EN/T-II-1/144/2024 dated 14.08.2024 for the proposed project, the Environmental Cost Benefit Analysis is not mentioned.

# CHAPTER – 10: ENVIRONMENTAL MANAGEMENT PLAN

## 10.1. Introduction

The above said mining lease for Sand consists of 6.51 hectares of land in Damodar Riverbed which is located in Mouza – Gaitanpur, District – Purba Bardhaman. The proponent will start the mining in the mining lease as per the approved mining plan after environmental clearance and grant of the mining lease. The mining activity will follow simple manual method of extraction (sand) and the site already have an unpaved road on the downstream side of the Lease Area.

Mining activities in the areas involve excavation of sand, transportation of Mineral etc. These activities lead to generation of air borne dust, which can cause air pollution in and around the area; if appropriate control measures are not taken. Similarly mining causes land degradation, noise and water pollution etc.

In order to minimize impacts of mining on different environmental parameters and to keep air and water quality within prescribed limits, a comprehensive environmental management plan has to be prepared. Any effort to control adverse impacts will be incomplete without appropriate control measures for reclamation of land affected due to mining and dumping. One of the balanced approached for development of mineral resources is total utilization of all the products. It aims at making use of all the products generated during mining so that no working is left out either as pollutants or as scars on earth surface. Usually, the environmental management plan is prepared for site development and for development stage, during operation phase and for post operation phase. This area is being worked for the last many years. Therefore, management plan operation phase and post operation phase are discussed.

## 10.2. Impact on Air Quality

The main pollutant in airs suspended particulate matter (SPM), which is generated during various activities of mining such as, extraction of sand from the riverbed and movement of transport vehicles. The ambient air quality with respect to the study zone of 10 km radius around the mine site forms the baseline information. The various sources of air pollution in the region are dust rising from unpaved roads, domestic fuel burning and vehicular traffic. The prime objective of baseline air quality monitoring is to assess existing air quality of the area.

This will also be useful in assessing the conformity to standards of the ambient air quality during the mining operations. The air quality which got adverse impact by transportation will be minimized by water spray on the approach roads twice in a day during summer and once in winter. The excavation of sand will also generate negligible amount of dust. The pollution created by diesel operated machinery will be minimized by adopting good quality silencers and proper maintenance of vehicles.

## 10.3. Control of Dust Pollutants

The environmental control measures proposed to control the fugitive dust includes:

- Haul road will be maintained regularly. Water tankers with spraying arrangement will be used for regular water sprinkling on the haul roads to ensure effective dust suppression.
- Speed limits will be prescribed for transport vehicle Regular maintenance of transport vehicles;
- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- Dumpers will not be overloaded to prevent spillage on the road.
- Plantation/ green belt development along approach/ transportation roads; and controlling of $SO_2$ & $NO_2$ Levels. The source of $SO_2$ & $NO_2$ would be due to vehicular emissions. This can be controlled by:
    a) Periodic maintenance of the trucks/dumpers used in transport of sand will be done as per manual and/or at regular interval to reduce smoke emissions.
    b) Ambient air quality monitoring will be carried out as per CPCB norms except monsoon season.

## 10.4. Control of Noise Pollution

Noise will be produced at the mine due to movement of transport vehicles only. This will be temporary and insignificant as the noise generated by the mining activity is dissipated within a small zone around the mine. As the mining process involves only extraction of sand from the riverbed manually, there is no major noise generation. In the mine, no machinery will be used. Major noise sources are transportation vehicles. The noise produced due to vehicle will not be continuous throughout the day.

## 10.5. Water Management

There is no wastewater generation in the sand mining. The only water contaminant is rainwater Run-off during the monsoon season. Mining will be carried out in dry river bed and it will remain above the ground water table. There will be no impact due to the proposed mining on the water environment and the water flow pattern does not disturb the turbidity and velocity. The impact on the aquatic flora & fauna due to the proposed opencast excavation is insignificant as it involves only scooping of sand from the dry river bed which will not disturb the aquatic life present in the river.

**Water pollution control measures:** In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining will be closed during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Sand will be collected in slices up to depth of 1.40 m or above the ground water level.
- Mining will be restricted minimum 7.5m away (inward) from river bank to minimize effect of river bank erosion and to avoid consequent channel migration.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining will be started from north western side and advanced towards eastern side across the river uniformly. In order to maintain safety and stability of river banks, a minimum distance of 7.5 m is left as safety zone.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

## 10.6. Land Use Pattern

The proposed project involves mining of sand from dry bed of the Damodar River. The minor mineral excavation activities will form small pits in the river bed temporarily. These pits are filled back naturally by the sediments brought by the river during monsoon. Thus, no reclamation is required as there will not be any change in the land use pattern.

**Land environment control measures:**

- Mining in 6.51 ha will be carried out leaving 7.5 m as undisturbed as safety barrier around the mine pits.
- The annual production will be less than replenishment rate of the river.
- Mining will be restricted minimum 1.40 m away (inward) from river bank to minimize effect of river bank erosion and to avoid consequent channel migration
- Mining at the concave side of the river channel will be avoided to prevent bank erosion Plantation will be carried out along the banks of the river to control erosion of banks.
- Slopes of the mine pits will be maintained below 37°.

## 10.7. Management of Biological Environment

There is no loss of forest resources like medicinal plants, endangered & rare species. as no deforestation takes place since excavation is done on the deposited sand of a river. The mining will be carried out in dry bed and will not disturb the aquatic life in the river. Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected. There will be no habitat fragmentation or blocking of migratory corridors for the proposed mining.

## 10.8. Plantation Programme

As the mine lease area is located within the riverbed, it is not suitable for plantation and green belt development, no plantation is proposed in haul roads of the lease area. However, plantation of local species of shrubs and trees will be carried out along the banks of the river near the mine lease area to form a green belt which will help in reducing the erosion of the river banks and also to act as a dust arresting screen. Plantation will also be carried out along the mineral transportation roads in the nearby villages. About 1075 saplings per annum will be planted in during plan period. Also, plantation will be carried out in the available free government areas with in the study area. Species Suggested for Mixed Plantation of species like:

- *Albizzia lebbek*
- *A. procera*
- *T. chebula*
- *Aquillaria agallocha (Agaru)*
- *Bambusa vulgaris*
- *Betula anoides*
- *Terminalia arjuna*
- *Azadirachta Indica*
- *Terminalia myriocarpa*
- *Phullanthus embeliica*
- *Delonix regia*
- *Tectona grandis*
- *Bombax ceiba*
- *Mesua assamica*
- *Alstonia scholaris*

## 10.9. Socio – Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the mine lease area is not being used for any purpose by any section of the society in this region. There is no Resettlement & Rehabilitation involvement in this project. There is no land acquisition in this project. The project is expected to yield a positive impact on the socio-economic environment, it will help for improving direct and secondary employment opportunities for the local people.

## 10.10. Employment Potential

Besides the direct and indirect employment to 14 – 30 persons, the company will provide vocational skill training to the unemployment youth of the neighbouring villages through outside agencies. Local villagers residing in the nearby villages shall be employed as semiskilled workers.

## 10.11. Occupational Health & Safety Measures

There is no environmental pollution due to the proposed mining as it is proposed to be a semi mechanised excavation of sand from the banks of Damodar River. Hence there will be no major occupational health hazards. Periodic Medical Examination shall be conducted to the workers, wherein a detailed examination and health survey including routine tests shall be conducted and records shall be maintained.

- Employee will be adequately trained and educated for involvement and commitment in to the implementation of health and safety guidelines.
- Monitoring the effects of mining activities on safety and health and conducting regular performance reviews through periodical health check-ups.
- Provision of all necessary resources for safety and health of employees and contractors engaged in mining.
- Setting of safety and health objectives based on comprehensive strategic plans and measure performance against these plans.
- Implementing safety and health management system and assessing the effectiveness through periodic audits.
- Organizing regular health check-up of the employee.

**Site Services:** Temporary office shed, Rest shelters, water supply and first aid facilities will be provided at site. Mostly local people will be employed in the mine.

**Safety Provision:** All provisions in safety rules and regulation will be maintained by providing required safety equipment to the employees. The lessee will provide safety shoes, safety helmets to all the employees. The safety precautions will be followed as per the provisions of Mines Rules and standards.

***Table 10.1:*** Budgetary Allocation for Safety

| S.No. | Items | Capital Cost (INR) | Recurring Cost (INR) |
|---|---|---|---|
| 1. | Measures prevent accidents during mining | 15,000.00 | 2,000.00 |
| 2. | Measures prevent accidents during mineral transportation | 10,000.00 | 2,000.00 |
| 3. | Measures prevent accidents during trucks /Dumpers | 10,000.00 | 2,000.00 |
| 4. | Measures prevent dangerous incident during inundations | 10,000.00 | 2,000.00 |
| 5. | Medical examination schedule | 15,000.00 | 2,000.00 |
| **Total** | | **60,000.00** | **10,000.00** |

## 10.12. Budget Allocation for EMP Implementation

Annual budget for EMP is very essential for successful implementation of EMP. As there are no pollution control systems, no capital cost of Pollution Control systems is envisaged. Costs will be annual operating costs as given below. The fund allocated will not be diverted for any other purposes and the top management will be responsible for this. The budget will take into consideration the following expenses:

- Field cost for monitoring of parameters.
- Cost of any defined outsourcing.
- Cost of chemicals, consumables and transport for data generation.
- Man power cost for environmental cell.
- Any other cost as per EC condition.

It is necessary to include the environmental cost as a part of the budgetary cost component. For this, a sum of Rs. 58.35 lakhs/annum approx., is allocated for environmental protection activities. This will include cost of water sprinkling, plantation, environmental monitoring etc which is further explained in the table 10.2 below.

***Table 10.2:*** Budgetary Allocations for EMP

| S. No. | Activity | Particulars | Number | Per Unit Rate | Frequency | Cost (INR) |
|---|---|---|---|---|---|---|
| 1. | **Green Belt** | Plantation of Saplings | 5349 | 300 | 1 | 16,04,700.00 |
| 2. | | Barbed Wire in RM | 5350 | 140 | 1 | 7,49,000.00 |
| 3. | | Tanker for Watering Plant | 1 | 150 | 1000 | 1,50,000.00 |
| 4. | **Dust Suppression** | 1000 L capacity tankers | 3 | 350 | 1000 | 10,50,000.00 |
| 5. | **Environmental Monitoring Plan** | Ambient Air | 4 | 12,500 | 2 | 1,00,000.00 |
| 6. | | Noise level | 4 | 12,500 | 2 | 1,00,000.00 |
| 7. | | Soil | 2 | 12,500 | 2 | 50,000.00 |
| 8. | | Ground Water | 2 | 12,500 | 2 | 50,000.00 |
| 9. | | Surface Water | 2 | 12,500 | 2 | 50,000.00 |
| 10. | **Occupational Health and Safety** | Medical Health Camp | 1 | 1,50,000 | 5 | 7,50,000.00 |
| 11. | | Safety Gears | 2518 | 350 | 1 | 8,81,300.00 |
| 12. | | Site Facilities | 1 | 60,000 | 5 | 3,00,000.00 |
| **Total Expenses of EMP** | | | | | | **58,35,000.00** |

## 10.13. Environmental Policy

The environment policy right from mine preparation to its operations will be based on:

- Compliance of applicable regulatory requirements;
- Conservation of natural resources;
- Maintaining a safe working environment;
- Providing high environmental expertise and know-how; and
- Regular training and refresher courses so as to achieve continuous improvement of environment.

In fulfilment of this commitment, they shall maintain continuing efforts to:

- Comply with all applicable safety, health and environment laws and regulations.
- Enhance Health, Safety and Environment (HSE) awareness among employees and associated.
- Stakeholders through effective communication and training.

- Investigate all workplace incidents and illness in order to promptly correct any unsafe conditions or practices.
- Integrate HSE considerations into business planning and decision making.
- HSE responsibility among our employees in their practices, and promote and value their involvement in achieving the goals of this policy.
- Increase shareholder value through HSE excellence.

## 10.14. Environmental Safeguards

The regular water sprinkling will be provided over the approach road and all other dust creating points and places to minimize the dust during mining and other operations. For the safety of the laborers the personal protective devices will be provided and proper training will be provided for environment and safety. The height and width of the benches and face slope are proposed as per Metalliferous Mines Regulation 1961. Regular health check-ups will be provided with periodically organized occupational health surveillance program for the workers. Insurance/ Group insurance will be provided for all laborers as per rules. Vehicular emissions will be checked by adopting good quality of silencers and by maintain wide and smooth roads. The noise level/pollution will be maintained within the permissible limit. Plantation as per approved planning will be provided in the lease area to increase the aesthetic environment of the lease area and nearby the lease area. The lessee will also follow the conditions imposed in the Environment Clearance for environment protection measures, ESR, CSR, etc.

# CHAPTER – 11: EXECUTIVE SUMMARY

The proposed project is the extraction of sand of Gaitanpur Sand Mine (MIN_EBUR_41) by West Bengal Mineral Development & Trading Corporation Ltd. located at Mouza – Shikarpur, JL. No. – 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal. The proposed project has been issued **letter of intent (LOI)** by office of the Department of Industry, Commerce & Enterprise, West Bengal; office letter No. 430-ICE-12011(99)/27/2022-MINES dated on 05th July 2023. Area granted is 6.51 Hectare for a period of about 5 years. The area is located in Survey of India Toposheet No. – F45D16 (73 M/16) and Geographically the ML area extends from latitude 23° 14' 01.346" N to 23° 13' 56.932" N and longitude 87° 48' 07.799" E to 87° 48' 20.083" E. Toposheet of the area is attached. The area is non-forest land in nature. The elevation of the river sand bed is 57 m AMSL.

As per MoEF&CC, New Delhi Gazette dated 14th September 2006 and amended thereafter, the proposed mining project is categorized as category 'B1' project. The proposed project activity will be carried out from Dadomar River, Dist. – Purba Bardhaman of West Bengal.

The mining plan has been prepared by Sanjay Kumar Pandey (Qualified Person) and approved for five years by The Chef Mining Officer, Mining Estate Branch, Court Road, P.O. – Asansol.

## Salient Features of the Project

| S. No | Parameters | Description |
|---|---|---|
| **1.** | **Mineral** | Sand |
| **2.** | **Name of the Mining lease** | Gaitanpur Sand Mine (MIN_EBUR_41) |
| **3.** | **Project Location** | **Mouza:** Gaitanpur<br>**Plot No.:** 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P);<br>**J. L. No.:** 65 |
| **4.** | **Police Station** | Khandaghosh |
| **5.** | **District** | Purba Bardhhaman |

| | | | | |
|---|---|---|---|---|
| **6.** | **State** | West Bengal | | |
| **7.** | **Toposheet Number** | 73M/16 | | |
| **8.** | **Topography** | No – Forest land (River course). | | |
| **9.** | **Location/ Site (GPS Co – Ordinates)** | **Boundary Pillar No.** | **Latitude** | **Longitude** |
| | | P1 | 23° 14' 01.346" N | 87° 48' 07.799" E |
| | | P2 | 23° 14' 06.642" N | 87° 48' 10.232" E |
| | | P3 | 23° 14' 01.642" N | 87° 48' 22.839" E |
| | | P4 | 23° 13' 56.932" N | 87° 48' 20.083" E |
| | | | | |
| **10** | **Ground Elevation** | 57 m MSL | | |
| **11.** | **Capacity of Proposed Production** | 78,825.00 Cu. M annual | | |
| **12.** | **Drilling Blasting** | The mining does not require any drilling and blasting in mining activities. | | |
| **13.** | **Method of Mining** | Open cast semi mechanized method | | |
| **14.** | **Lease Period** | 5 Years contract period. | | |
| **15** | **Lease Area** | 6.51 Hectares | | |
| **16** | **Land Use Pattern of the Lease Area** | Govt land of 6.51 Ha. | | |
| **17.** | **Geological Reserve** | 3,68,825.352 Cu. M. (As per Approved Mining Plan) | | |
| **18.** | **Mineable Reserve** | 3,18,989.01 Cu. M (for 5 Years) | | |
| **19.** | **Manpower to be involved** | Total = 47 manpower. | | |
| **20.** | **Water requirements and source** | Drinking purposed 1.9 KLD Others 2.1 KLD Total = 4 KLD<br>Source: Nearby Villages | | |
| **21.** | **Solid Waste Generation** | There will not be any generation of solid waste for the proposed riverbed sand mining project. | | |
| **21.** | **Cost of the Project** | ₹ 58.35 Crores. | | |
| **22.** | **Budgetary Provision for EMP** | 5% of project cost is allocated for Environmental Management Plan | | |
| **23.** | **Corporate Environmental Responsibility (CER) cost** | 2% of project cost annually is allocated for CER cost | | |

## Ambient Air Quality

## Particulate Matter ($PM_{10}$):

The maximum value for $PM_{10}$ was observed as 94.12 µg/$m^3$ at Near AQ-5 while 24 hours applicable limit is 100 $\mu$ g/$m_3$ for industrial and mixed-use areas. The area observes average

$PM_{10}$ concentration in the range of 50 $\mu g/m^3$ – 60 $\mu g/m^3$ with the lowest concentration of 50.27 $\mu g/m^3$ recorded at AQ-7).

## Particulate Matter ($PM_{2.5}$):

The maximum value for $PM_{2.5}$ was observed, as 39.78 $\mu g/m^3$ at AQ-5 while 24 hours applicable limit is 60 $\mu g/m^3$ for industrial and mixed-use areas. The area observes average $PM_{2.5}$ concentration in the range of 15 $\mu g/m^3$ – 30 $\mu g/m^3$ with the lowest concentration of 17.79 $\mu g/m^3$ recorded at AQ-7.

## Sulphur Dioxide ($SO_2$):

The maximum value for $SO_2$ was observed, as 8.02 $\mu g/m^3$ at AQ-5 while 24 hours applicable limit is 80.00 $\mu g/m^3$ for industrial and mixed-use areas. The area observes average $SO_2$ concentration in the range of 2 $\mu g/m^3$ – 10 $\mu g/m^3$ with the lowest concentration of 2.5 $\mu g/m^3$ recorded at AQ-8. All the villages have observed value well under the prescribed limit.

## Nitrogen Oxides ($NO_2$):

The maximum value for $NO_2$ was observed as 14.4 $\mu g/m^3$ at AQ-7 while 24 hours applicable limit is 80 $\mu g/m^3$ for industrial and mixed-use areas. The area observes average $NO_2$ concentration in the range of 9 $\mu g/m^3$ - 20 $\mu g/m^3$ with the lowest concentration of 9.8 $\mu g/m^3$ recorded at AQ-6. All the villages have observed value well under the prescribed limit.

## Free Silica (Si):

The maximum value for Si was observed as 1.16 $\mu g/m^3$ at AQ-5 while 24 hours applicable limit is 50 $\mu g/m^3$ for industrial and mixed-use areas. The area observes average Si concentration in the range of 0.1 $\mu g/m^3$ – 15.5 $\mu g/m^3$ with the lowest concentration of 0.25 $\mu g/m^3$ recorded at AQ-7. All the villages have observed value well under the prescribed limit.

## Noise Quality:

Ambient noise levels were measured at 04 locations around the proposed project site. Minimum and maximum noise levels recorded during the day time were from 72.10 Leq dB and 53.10 Leq dB respectively and minimum and maximum level of noise during night time were 73.40 Leq dB and 53.10 Leq dB respectively.

## Water Quality:

**Ground water**

1. During the monitoring period analysis of ground water shows that pH ranges from 6.83 to 7.23;

2. The Total dissolve solid (TDS) concentration was found to be ranging in between 460 mg/l to 350 mg/l.
3. Total Hardness as $CaCO_3$ was observed to the ranging from 298 mg/l to 174 mg/l.
4. Bacteriological studies revealed the absence of E. Coli & Coliforms.
5. The ground water quality at the study area is found under the limits of drinking water standards.

**Surface water**

1. Analysis of the result indicates that the pH ranges in between 7.09 to 7.33, which are well within the prescribed standard of 6.5 to 8.5 of CPCB.
2. The Turbidity concentration was found to be ranging in between 1 NTU to 5 NTU.
3. Total BOD concentration was found to be ranging from <2.0 mg/l to 4 mg/l.
4. The surface water quality in the study area does not indicate any industrial contamination.

**Soil Quality**

The average pH of the soil in the study areas is sandy clay soil type was observed. The project site soil sample shows 80 – 60 % of sand sample and 20 – 40 % are clay content.

1. The data shows that value of permeability ranges from $<10^{-7}$ – 5.8 x $10^{-4}$ cm/s at the study area indicating that soil samples have a good permeability.
2. The conductivity at Project Site is minimum 47.42 µs/cm, which is the highest in the study area. The overall conductivity ranges from 50 – 110 µs/cm.
3. Moisture content value ranges from 10 % to 20 %.
4. The average concentration of Nitrogen, Phosphorus and Potassium in the soil samples varies from 207 to 145 mg/Kg, 27 to 16 mg/Kg, 34 to 18 mg/Kg respectively.

**Ecology and Biodiversity**

There are no Ecologically Sensitive Areas present in the study area but some Reserved Forests are present in the buffer area of the project site.

**Socio-economy**

The implementation of the sand mining project at over an area of 6.51 Ha situated Mouza – Malocha, Mouza – Gaitanpur, JL No.: 65, Plot No.: 1635 (P), 1636(P), 1637(P), 1641(P), 1642(P), 1649(P), 1652(P), 1655(P), 1657(P), 1689(P), 1690(P), 1693(P), 1701(P), 1702-1713, 1715(P), P.S. – Khandaghosh, of Purba Bardhaman district of West Bengal will throw opportunities to local people for both direct and indirect employment. Human settlements are

very close to the project area. It is expected that same will improve to a great extent due to proposed mining project and associated activities.

## Environmental Management Plan (EMP)

Proper environmental management plan is proposed for "Sand" mining project to mitigate the impact during the mining operation.

- No labour camps will be established on site.
- No cooking, or burning of woods will be allowed in the nearby area.
- Prior to commencement of mining, a short awareness program will be conducted for labours to make them aware of way of working and various precautions to be taken while at work. Such program will be repeated occasionally.
- In the event of any some causality or injury to any animal occurs, proper treatment will be given.
- No tree cutting, chopping, lumbering, uprooting of shrubs and herbs will be allowed.
- Corridor movement of wild animals, if exists mining operations will be avoided in the area.
- It will be ensured that noise produced due to vehicles movement while carrying stone is within the permissible noise level.
- No piling of Stone will be done in adjoining area.
- If wild animals are noticed crossing the area, they will not be disturbed or chased away, instead the labours will move away from their path.

## Environment Monitoring Program

| S. No. | Activity | Schedule |
|---|---|---|
| **Air Pollution Monitoring** | | |
| 1. | Ambient air monitoring of parameters specified by MoEF ($PM_{10}$, $SO_2$ & $NO_2$). | Twice in a Year except monsoon |
| **Water Pollution Monitoring** | | |
| 2. | Monitoring water quality surface water from the river | Twice in a Year except monsoon |
| 3. | Monitoring of one sample of tube well and open well at mine / nearby location. Parameters are essential parameters as per IS: 10500:2012. | Twice in a Year except monsoon |
| 4. | Monitoring of water spray requirements | Log-sheet of water spray will be maintained on daily basis |

| S. No. | Activity | Schedule |
|---|---|---|
| **Noise Quality Monitoring** | | |
| 5. | Noise in the ambient atmosphere in mining lease | Twice in a Year except monsoon |
| **Greenbelt Maintenance** | | |
| 6. | Monitoring schedule for Greenbelt development as per mining plan | Yearly |
| **Soil Quality Monitoring** | | |
| 7. | Soil at six locations | Twice in a Year except monsoon |

The proposed project is expected to provide employment to local people in different activities such as mining, sizing (sieving) transportation and plantation activities. The revenue generated from the production and sale of mineral will also add to the exchequer of government, which in turn will help in the growth of state economy. Excavated material will cater the huge increasing demand of mineral in the fast-growing construction industry of West Bengal and nearby states etc.

# CHAPTER – 12: DISCLOUSRE OF THE CONSULTANT

This EIA report is prepared on behalf of the proponents, West Bengal Mineral Development and Trading Corporation Limited by the environmental Consultant, "M/s. Indian Mine Planners and Consultants" (IMPCON). The head office of IMPCON is at Kolkata.

Indian Mine Planners & Consultants (IMPCON) was established in 2007 with the prime objective of guiding for total mining solution in Mine Planning for the Mine Entrepreneurs of Government, Public Sectors and Private Sector bodies engaged in the field of mining of Coal, Metallic and non- Metallic deposits. The services are provided by the energetic and highly experienced mine planners and guided by the dynamic, pragmatic, qualified and experienced advisors in the field of mining with an aim to ensure safety, productivity and sustainable mining with due regard to quality and environment.

Currently, IMPCON is an ISO 9001:2015 Certified Company & a QCI – NABET accredited Environment Consultant Organisation (ECO), Accredited Prospecting Agency (APA) & Mining Plan Preparation Agency (MPPA) from Jan-2021 and Accredited Exploration Agency (AEA) for Mineral sector.

IMPCON caters to the need of existing as well as new Mining Entrepreneurs for preparing the geological reports, mining feasibility reports, mining plan, detailed mine design, environment impacts assessment (EIA) reports etc. A group of advisors from various disciplines with over 40 years of experience from organizations like Geological Survey of India, Various subsidiaries of Coal India Limited (CIL) including Central Mine Planning & Design Institute Limited (CMPDIL), Steel Authority of India Limited (SAIL), Indian School of Mines etc. provide their valuable guidance.

IMPCON also delivers advisory services in all aspects of geological exploration, geo-technical services, hydro-geology, mine planning & detailed design, electrical installations and maintenance, possible improvement areas of mechanical performance of the high-capacity mining machineries, civil and infrastructural job planning, choice of equipment's for mining, manpower, planning and finally total economics for project viability.

## EIA TEAM:

| NAME | FUNCTUIONAL AREA |
|---|---|
| Dr. N. B. Chanda | Air Pollution Monitoring, Prevention and Control (AP) |
| | Water Pollution monitoring,prevention and control (WP) |
| | Geology (GEO) |
| Dr. A. S. Shannigrahi | Meteorology, Air Quality Modelling, and Prediction (AQ) |
| Mr. Gopal Chandra Das | Land Use and Land Cover (LU) |
| | Soil Conservation (SC) |
| Dr. Tapan Kumar Mishra | Ecology & Biodiversity (EB) |
| Mr. Sanjib Chattopadhyay | Noise and Vibration (NV) |
| | Solid Waste Management (SW) |
| | Hazardous Waste Management (HW) |
| Ms. Nidhi Singh Rathod | Socio – Economy (SE) |
| Mr. Debashish Ghosh | Hydrology, Ground Water and Water Conservation (HG) |
| Mr. Debasish Basu | Risk Assessment & Hazards Management (RH) |
| Mr. Arpan Chakraborty | TEAM MEMBER (TM) |

## LABORATORY PARTNER:

N.D. International is a multinational organisation located in India and Japan. Their laboratory is accredited by NABL, ISO 9001:2015 Certified and recognised by other governmental departments. The Details of their laboratory are:

| Name of and address of the Laboratory | Scope of services | Accreditation status |
|---|---|---|
| ND International<br>**Address:** 17, Jnan Goswami Sarani, 107b, Block-F, New Alipore, Kolkata, West Bengal, India | Monitoring and Analysis of:<br>• Ambient Air Quality<br>• Noise Quality<br>• Soil Quality<br>• Ground Water | Accredited by NABL,<br>Certificate No. **TC-5910**<br>**Validity:** 06th June 2024 |

**ANNEXURE I:** Mining Plan Approval Letter

GOVERNMENT OF WEST BENGAL
Office of the Chief Mining Officer
COURT ROAD, ASANSOL-713304
DISTT. PASCHIM BARDHAMAN

Tele Fax: 0341-2252407
e-mail : cmo.dmm-wb@nic.in

Memo. No. 266/CMO/XVI/EBUR (601) Dated: Asansol the 27th June, 2024

To,
The Chairman and Managing Director,
West Bengal Mineral Development & Trading Corporation Limited,
WBIIDC Building, 3rd Floor, DJ-Block, DJ-10,
Sector-II, Bidhannagar (Saltlake City),
Kolkata – 700091

**Subject-** **Approval of "*Revised* Mining Plan" for mining of 'River-bed Sand' in respect of Sand Block, bearing I.D. MIN_EBUR_41, Mouza Gaitanpur, J.L. No. 65, under P.S. & Block Khandaghosh, in the District of Purba Bardhaman, over an Area of 6.51 Hectares to be leased out to West Bengal Mineral Development & Trading Corporation Limited.**

**Ref.-** **This office Memo. No. 137/CMO Dated 12/04/2024.**

Sir,

In terms of **Sub rule 2(b) under Rule 4** of the West Bengal Minor Minerals Concession Rules, 2016, I hereby approve the above mentioned ***Revised* Mining Plan** for **'River-bed Sand'** in **Mouza Gaitanpur, J.L. No. 65,** Under **P.S. & Block Khandaghosh,** in the **District** of **Purba Bardhaman,** over an **Area** of **6.51 Hectares** subject to the following conditions:-

01. i) This ***Revised* Mining Plan** is approved without prejudice in any other laws applicable to the Mine from time to time whether made by Central Govt., State Govt. or any other Government authority.

ii) The ***Revised* Mining Plan** is approved without prejudice to any order or direction from any court of competent jurisdiction.

02. It is also clarified that the approval of your aforesaid ***Revised* Mining Plan** does not in any way imply the approval of the Government in terms of any other provisions of Mines & Minerals (Development & Regulation) Act, 1957, West Bengal Minor Minerals Concession Rules, 2016 and West Bengal Sand (Mining, Transportation, Storage and Sale) Rules, 2021, framed there-under and any other laws.

03. It is also clarified that this approval of ***Revised* Mining Plan** under the West Bengal Minor Mineral Concession Rules, 2016 and West Bengal Sand (Mining, Transportation, Storage and Sale) Rules, 2021 is subject to the provision of Forest (Conservation) Act, 1980, Forest (Conservation) Rules, 1981 and other relevant statutes, orders and guidelines including those issued by Hon'ble Courts of Law (including National Green Tribunal) as may be applicable to the proposed lease area from time to time.

**Contd....2/-**

# **ANNEXURE II:** TOR Grant Letter

सत्यमेव जयते

**File No:** EN/T-II-I/144/2024
**Government of India**
**Ministry of Environment, Forest and Climate Change**
**(Issued by the State Environment Impact Assessment Authority(SEIAA), WEST BENGAL)**
***

Dated **14/08/2024**

**To,**

WEST BENGAL MINERAL DEVELOPMENT AND TRADING CORPORATION LIMITED
13, NELLIE SENGUPTA SARANI 2ND FLOOR, KOLKATA , KOLKATA, WEST BENGAL, , 700091
wbmdtcltd@gmail.com

**Subject:** Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding.

**Sir/Madam,**

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Galtanpur Sand Mine (MIN_EBUR_41) submitted to Ministry vide proposal number SIA/WB/MIN/486693/2024 dated 16/07/2024.

2. The particulars of the proposal are as below :

| | |
|---|---|
| **(i) TOR Identification No.** | TO24B0107WB5451842N |
| **(ii) File No.** | EN/T-II-I/144/2024 |
| **(iii) Clearance Type** | TOR |
| **(iv) Category** | B1 |
| **(v) Project/Activity Included Schedule No.** | 1(a) Mining of minerals |
| **(vii) Name of Project** | Galtanpur Sand Mine (MIN_EBUR_41) |
| **(viii) Name of Company/Organization** | WEST BENGAL MINERAL DEVELOPMENT AND TRADING CORPORATION LIMITED |
| **(ix) Location of Project (District, State)** | PURBA BARDHAMAN, WEST BENGAL |
| **(x) Issuing Authority** | SEIAA |
| **(xii) Applicability of General Conditions** | no |
| **(xiii) Applicability of Specific Conditions** | no |

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact Assessment Authority(SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.

4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) in

# **ANNEXURE III:** Letter of Intent

Government of West Bengal
Department of Industry, Commerce and Enterprises
Mines Branch
4, Abanindranath Tagore Sarani (Camac Street), Kolkata-700016

No.430-ICE-12011(99)/27/2022-MINES Date : 05.07.2023

From : The Deputy Secretary
to the Government of West Bengal.

To : The Chairman and Managing Director
West Bengal Mineral Development & Trading Corporation Ltd.,
WBIIDC Building, Sector-II, Bidhannagar,
Kolkata-700091.

**Sub** : Provisional Grant Order for Sand Blocks to be auctioned by WBMDTCL (8th phase), reg.

**Ref** : Memo No. MDTC/SAND/003/Part-8/1656 dated 26.06.2023.

Sir,

With reference to the above subject, I am directed to inform you that Provisional Grant Order is hereby accorded by this Department to the West Bengal Mineral Development and Trading Corporation Ltd. for sand blocks to be auctioned by the Corporation in 8th phase.

I am also directed to request you kindly to arrange for preparation of Mining Plans and obtain Environment Clearance from the competent authority as well as other statutory clearances as per norms in order to execute Mining Lease in due course.

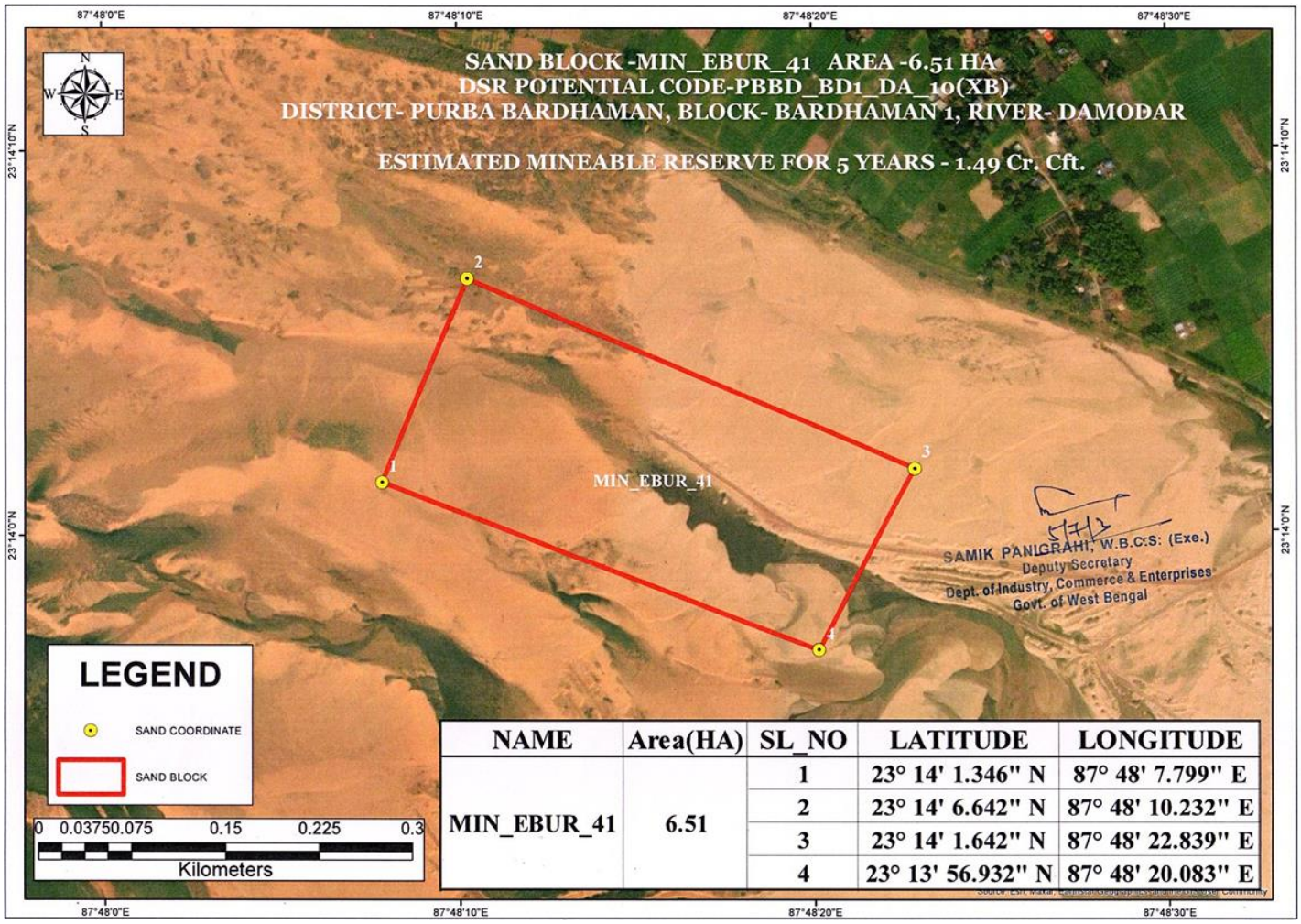
Yours faithfully,
Deputy Secretary
to the Government of West Bengal

No.430/1(2)-ICE-12011(99)/27/2022-MINES Date:05.07.2023

Copy forwarded to:

1. PA to Secretary, (Mines),Dept of I,C & E, with request to place it for kind appraisal of the authority
2. Chief Mining Officer, WB, for kind information and necessary action.

Deputy Secretary
to the Government of West Bengal




| NAME | Area(HA) | SL_NO | LATITUDE | LONGITUDE |
|---|---|---|---|---|
| MIN_EBUR_41 | 6.51 | 1 | 23° 14' 1.346" N | 87° 48' 7.799" E |
| | | 2 | 23° 14' 6.642" N | 87° 48' 10.232" E |
| | | 3 | 23° 14' 1.642" N | 87° 48' 22.839" E |
| | | 4 | 23° 13' 56.932" N | 87° 48' 20.083" E |

# ANNEXURE IV: Approved Mining Plan

old- 582
new- 607

Approved vide, Memo. No. 266/CMO
Dated. 27/06/2024.

**REVISED MINING PLAN INCLUDING MINE CLOSURE PLAN**
**RIVER BED MINING FOR SAND**
**GAITANPUR SAND MINE (MIN_EBUR_41)**
**DSR Potential Zone Code : PBBD_BD1_DA_10(XB).**

**[As per West Bengal Minor Mineral Concession Rules, 2016 & West Bengal Sand (Mining, Transportation, Storage and Sale) Rules, 2021]**

**Lessee:**
**West Bengal Mineral Development & Trading Corporation Limited**

O/o. the Chief Mining Officer * Govt. of W. Bengal

**Sand Block Code: MIN_EBUR_41.**

**Mineral: River Bed Material (Sand).**

**Mouza: Gaitanpur,**

**Area: 6.51 Hectare, J.L. No.: 65,**

**Plot No.: 1635(p), 1636(p), 1637(p), 1641(p), 1642(p), 1649(p)-1652(p), 1655(p), 1657(p), 1689(p), 1690(p)-1693(p), 1701(p), 1702-1713, 1715(p),**

**River: Damodar River, Police Station: Khandaghosh,**

**District: Purba Bardhaman, West Bengal.**

**Prepared by:**

**Geosumukh Inframines Private Limited, Konnagar,**
**RQP: Sanjay Kumar Pandey.**
**RQP Regn No.: RQP/KOL/383/2013A.**

APPROVED

27/06/2024

(Joydeb Das)
Chief Mining Officer
Govt. of West Bengal

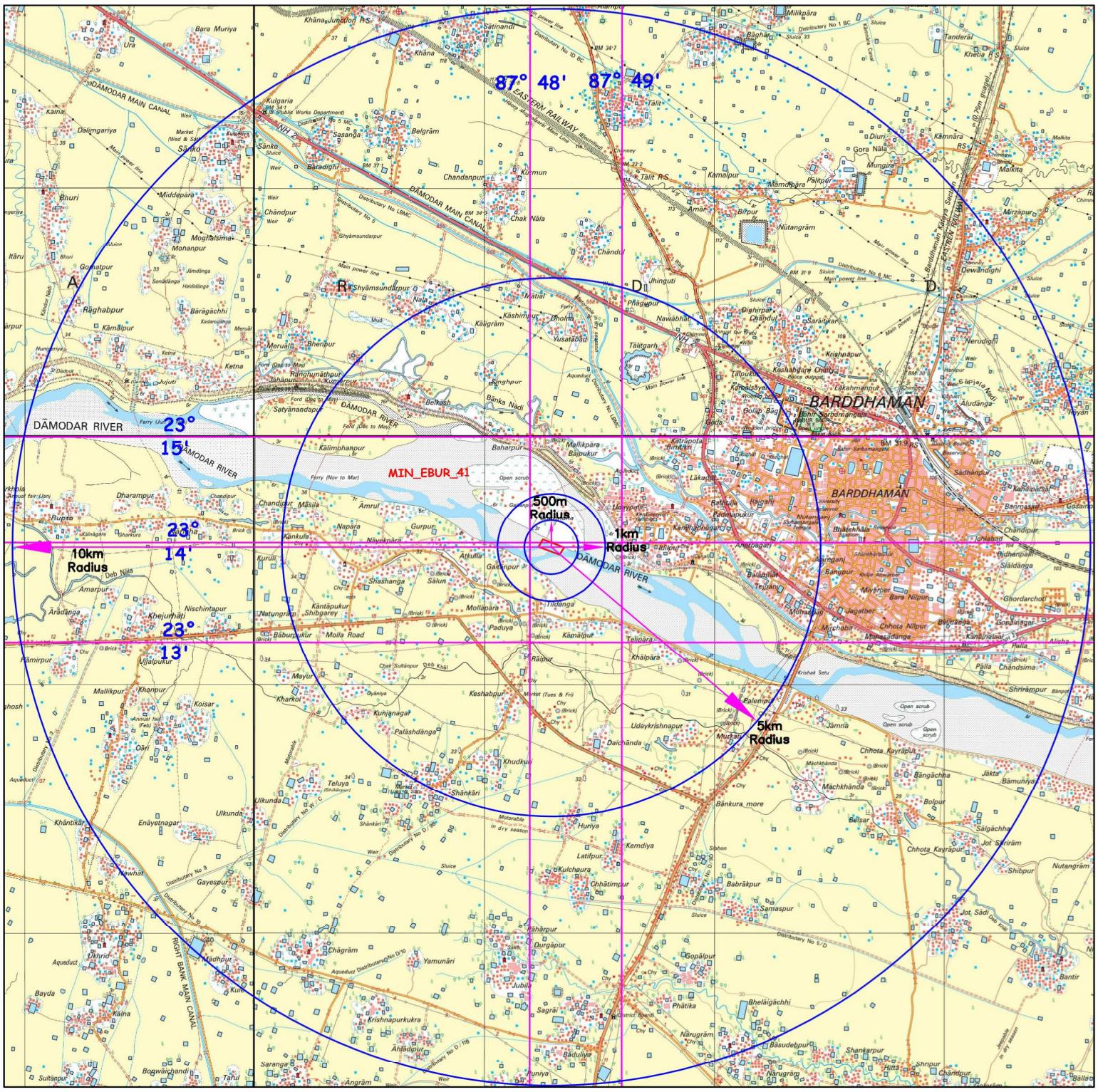
# KEY PLAN IN TOPOSHEET MAP SHOWING FEATURES PRESENT WITHIN 500m, 1Km, 5Km & 10Km DISTANCE FROM SAND BLOCK MIN_EBUR_41

M/N

W E

S

0m. 1000 2000 4000 6000 8000 10000m.




| Toposheet No. 73 M/16 | | |
|---|---|---|
| Boundary Points | Co-ordinates | |
| | Latitude | Longitude |
| BP1 | N 23° 14' 01.346" | E 087° 48' 07.799" |
| BP2 | N 23° 14' 06.642" | E 087° 48' 10.232" |
| BP3 | N 23° 14' 01.642" | E 087° 48' 22.839" |
| BP4 | N 23° 13' 56.932" | E 087° 48' 20.083" |

| | |
|---|---|
| | LEASE BOUNDARY |
| | 10 Km, 5Km, 1Km & 500m BUFFER FROM LEASE BOUNDARY |

MOUZA :- GAITANPUR, J.L. NO.:- 65, RIVER :- DAMODAR,
DISTRICT:- PURBA BARDHAMAN(W.B.)
AREA :- 6.51 Hectare , BLOCK :- KHANDAGHOSH
PROPONENT:- WEST BENGAL MINEARAL DEVELOPMENT & TRADING CORPORATION LIMITED.
SAND BLOCK CODE :- MIN_EBUR_41.

**PREPARED BY**

# ANNEXURE VI: Base Line Data (Lab Report)

**N. D. INTERNATIONAL**

GOVERNMENT REGISTERED

An ISO 9001:2015 Company | Certificate : 23DQMS20

CB-QMS-035

## TEST REPORT

**Certificate No. AA(M)/24-25/1152** **Date: August 30, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .

: Site Address :- Location – Gaitanpur , Block – Khanda Ghosh, Dist – Purba Bardhaman

**Description of Sample** : Ambient Air .

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 1 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 (µg/m³) | PM 2.5 (µg/m³) | $SO_2$ (µg/m³) | $NO_x$ (µg/m³) | CO (ppm) | Si (µg/m³) |
| 1 | 04.03.2024 | 56.3 | 22.8 | 6.4 | 13.3 | <1.0 | 6.8 |
| 2 | 07.03.2024 | 56.5 | 23.6 | 5.8 | 12.4 | <1.0 | 5.9 |
| 3 | 10.03.2024 | 57.7 | 24.1 | 7.1 | 12.5 | <1.0 | 6.3 |
| 4 | 13.03.2024 | 58.6 | 22.9 | 6.4 | 13.6 | 1 | 7.1 |
| 5 | 16.03.2024 | 58.8 | 23.6 | 7.1 | 12.3 | <1.0 | 6.5 |
| 6 | 19.03.2024 | 56.5 | 24.1 | 6.5 | 11.9 | 1 | 6.9 |
| 7 | 22.03.2024 | 54.2 | 22.2 | 7.1 | 13.7 | 1 | 5.8 |
| 8 | 25.03.2024 | 49.9 | 23.5 | 5.8 | 14.6 | <1.0 | 5.7 |
| 9 | 28.03.2024 | 51.6 | 22.7 | 7.1 | 12.5 | <1.0 | 6.2 |
| 10 | 31.03.2024 | 53.7 | 24.3 | 5.3 | 11.4 | <1.0 | 4.9 |
| 11 | 03.04.2024 | 56.3 | 23.5 | 6.2 | 13.7 | <1.0 | 7.1 |
| 12 | 06.04.2024 | 54.8 | 24.6 | 5.8 | 12.2 | 1 | 5.8 |
| 13 | 09.04.2024 | 55.5 | 23.2 | 6.7 | 13.3 | <1.0 | 6.2 |
| 14 | 12.04.2024 | 53.9 | 25.3 | 5.8 | 14.1 | <1.0 | 5.9 |
| 15 | 15.04.2024 | 55.7 | 24.1 | 6.2 | 12.5 | 1 | 5.3 |
| 16 | 18.04.2024 | 52.5 | 23.8 | 6.7 | 13.4 | <1.0 | 4.8 |
| 17 | 21.04.2024 | 57.8 | 22.6 | 5.6 | 11.8 | 1 | 6.1 |
| 18 | 24.04.2024 | 58.4 | 21.1 | 7.4 | 12.3 | <1.0 | 7.2 |
| 19 | 27.04.2024 | 59.6 | 24.3 | 7.3 | 11.9 | <1.0 | 6.3 |
| 20 | 30.04.2024 | 56.2 | 22.5 | 6.5 | 13.6 | <1.0 | 6.5 |
| 21 | 03.05.2024 | 61.6 | 25.4 | 7.1 | 14.2 | <1.0 | 8.4 |
| 22 | 06.05.2024 | 58.4 | 24.2 | 5.2 | 12.7 | 1 | 6.6 |
| 23 | 09.05.2024 | 56.8 | 23.3 | 6.8 | 14.3 | <1.0 | 7.2 |
| 24 | 12.05.2024 | 57.4 | 22.4 | 8 | 11.8 | <1.0 | 6.7 |
| 25 | 15.05.2024 | 61.6 | 23.8 | 6.8 | 15.6 | <1.0 | 7.1 |
| 26 | 18.05.2024 | 60.1 | 21.7 | 7.2 | 12.3 | <1.0 | 6.6 |
| 27 | 21.05.2024 | 58.4 | 24.6 | 5.7 | 13.1 | <1.0 | 6.8 |
| 28 | 24.05.2024 | 56.6 | 25.3 | 6.4 | 14.4 | <1.0 | 6.7 |
| 29 | 27.05.2024 | 54.8 | 23.6 | 6.3 | 11.2 | <1.0 | 8 |
| 30 | 30.05.2024 | 58.5 | 24.8 | 7.2 | 13.5 | 1 | 6.6 |

...END OF TEST REPORT...

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

1 The test report shall not be reproduced, except in full, without written approval of the company.
2 Results relate only to the parameters tested.
3 The remaining sample after test will be retained for 15 days from the date of issue of certificate.

NS

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob.: 9830654565, 9830789456
E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N. D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company | Certificate : 23DQMS20

CB-QMS-035

## TEST REPORT

**Certificate No. AA(M)/24-25/1153** **Date: August 30, 2024** 

**Name of Customer** : **M/s. Geosumukh Inframines Pvt. Ltd.**

**Address** : **75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .**

: **Site Address :- Location – Kanchan Nagar , Block – Bardhaman-I , Dist – Purba Bardhaman**

**Description of Sample** : **Ambient Air .**

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 2 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 (µg/m$^3$) | PM 2.5 (µg/m$^3$) | $SO_2$ (µg/m$^3$) | $NO_x$ (µg/m$^3$) | CO (ppm) | Si (µg/m$^3$) |
| 1 | 05.03.2024 | 59.5 | 23.1 | 5.9 | 12.6 | <1.0 | 5.7 |
| 2 | 08.03.2024 | 58.6 | 22.5 | 6.2 | 13.3 | <1.0 | 6.2 |
| 3 | 11.03.2024 | 60.8 | 24.3 | 7.1 | 13.4 | <1.0 | 5.9 |
| 4 | 14.03.2024 | 61.7 | 25.6 | 8.1 | 14.5 | 1 | 4.8 |
| 5 | 17.03.2024 | 62.5 | 22.5 | 6.2 | 13.1 | <1.0 | 7.2 |
| 6 | 20.03.2024 | 63.6 | 23.7 | 7.3 | 15.6 | 1 | 6.7 |
| 7 | 23.03.2024 | 61.3 | 24.1 | 7.1 | 11.9 | 1 | 6.5 |
| 8 | 26.03.2024 | 58.4 | 23.6 | 6.7 | 16.1 | <1.0 | 7.2 |
| 9 | 29.03.2024 | 57.8 | 25.3 | 8 | 13.8 | <1.0 | 5.8 |
| 10 | 01.04.2024 | 59.5 | 23.4 | 6.4 | 14.6 | <1.0 | 6.9 |
| 11 | 04.04.2024 | 60.4 | 22.6 | 5.8 | 12.7 | <1.0 | 4.9 |
| 12 | 07.04.2024 | 59.2 | 26.5 | 9.1 | 13.3 | 1 | 7.1 |
| 13 | 10.04.2024 | 58.3 | 22.3 | 8.6 | 14.5 | <1.0 | 6.3 |
| 14 | 13.04.2024 | 60.7 | 24.8 | 7.1 | 15.1 | <1.0 | 6.4 |
| 15 | 16.04.2024 | 61.5 | 23.9 | 6.3 | 13.6 | 1 | 5.7 |
| 16 | 19.04.2024 | 59.6 | 22.7 | 6.8 | 12.8 | <1.0 | 8.1 |
| 17 | 22.04.2024 | 61.2 | 26.6 | 7.1 | 14.1 | 1 | 6.3 |
| 18 | 25.04.2024 | 64.4 | 22.8 | 8.5 | 15.6 | <1.0 | 6.6 |
| 19 | 28.04.2024 | 59.7 | 21.9 | 7.2 | 11.8 | <1.0 | 7 |
| 20 | 01.05.2024 | 62.9 | 23.6 | 6.3 | 12.3 | <1.0 | 6.8 |
| 21 | 04.05.2024 | 65.8 | 24.4 | 6.5 | 10.6 | <1.0 | 6.9 |
| 22 | 07.05.2024 | 59.3 | 23.2 | 8.1 | 13.2 | <1.0 | 8.2 |
| 23 | 10.05.2024 | 61.1 | 22.5 | 6.9 | 14.1 | <1.0 | 7.4 |
| 24 | 13.05.2024 | 63.4 | 21.1 | 7.2 | 12.9 | <1.0 | 6.6 |
| 25 | 16.05.2024 | 61.5 | 23.9 | 6.4 | 14.6 | <1.0 | 4.7 |
| 26 | 19.05.2024 | 60.2 | 24.8 | 6.3 | 11.5 | <1.0 | 5.1 |
| 27 | 22.05.2024 | 59.8 | 25.6 | 7.4 | 13.4 | 1 | 7.3 |
| 28 | 25.05.2024 | 58.7 | 22.5 | 6.6 | 12.3 | <1.0 | 6.4 |
| 29 | 28.05.2024 | 62.6 | 23.7 | 6.1 | 15.1 | <1.0 | 6.6 |
| 30 | 31.05.2024 | 64.3 | 21.4 | 5.8 | 14.8 | 1 | 7.2 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

1 The test report shall not be reproduced, except in full, without written approval of the company.
2 Results relate only to the parameters tested.
3 The remaining sample after test will be retained for 15 days from the date of issue of certificate.

NS

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob : 9830654565, 9830789456
E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N. D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company | Certificate : 23DQMS20

CB-QMS-035

## TEST REPORT

**Certificate No. AA(M)/24-25/1128** **Date: August 30, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .

: Site Address :- Location – Oari , Block – Khanda Ghosh, Dist – Purba Bardhaman

**Description of Sample** : Ambient Air .

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 3 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 (µg/m³) | PM 2.5 (µg/m³) | $SO_2$ (µg/m³) | $NO_x$ (µg/m³) | CO (ppm) | Si (µg/m³) |
| 1 | 04.03.2024 | 55.2 | 23.6 | 6.4 | 12.8 | <1.0 | 5.6 |
| 2 | 07.03.2024 | 55.4 | 21.8 | 5.8 | 13.7 | <1.0 | 6.4 |
| 3 | 10.03.2024 | 56.5 | 22.7 | 7.1 | 11.6 | <1.0 | 6.5 |
| 4 | 13.03.2024 | 57.2 | 21.8 | 6.4 | 12.5 | 1 | 6.3 |
| 5 | 16.03.2024 | 56.4 | 22.3 | 7.1 | 11.7 | <1.0 | 6.1 |
| 6 | 19.03.2024 | 55.3 | 24.7 | 6.5 | 10.8 | 1 | 5.7 |
| 7 | 22.03.2024 | 52.1 | 23.5 | 7.1 | 12.6 | 1 | 6.2 |
| 8 | 25.03.2024 | 49.8 | 22.4 | 5.8 | 13.1 | <1.0 | 5.8 |
| 9 | 28.03.2024 | 50.7 | 21.8 | 7.1 | 11.7 | <1.0 | 6.3 |
| 10 | 31.03.2024 | 53.5 | 23.1 | 5.3 | 10.8 | <1.0 | 6.5 |
| 11 | 03.04.2024 | 54.8 | 22.8 | 6.2 | 12.7 | <1.0 | 7.7 |
| 12 | 06.04.2024 | 52.8 | 25.4 | 5.8 | 13.8 | 1 | 5.3 |
| 13 | 09.04.2024 | 53.2 | 22.3 | 6.7 | 14.2 | <1.0 | 5.5 |
| 14 | 12.04.2024 | 52.6 | 23.5 | 5.8 | 12.7 | <1.0 | 5.7 |
| 15 | 15.04.2024 | 53.8 | 23.6 | 6.2 | 13.4 | 1 | 7.3 |
| 16 | 18.04.2024 | 51.8 | 22.7 | 6.7 | 11.8 | <1.0 | 5.2 |
| 17 | 21.04.2024 | 54.7 | 21.8 | 5.6 | 12.4 | 1 | 6.8 |
| 18 | 24.04.2024 | 53.6 | 24.8 | 7.4 | 13.1 | <1.0 | 5.7 |
| 19 | 27.04.2024 | 54.5 | 23.3 | 7.3 | 12.3 | <1.0 | 6.1 |
| 20 | 30.04.2024 | 55.3 | 22.4 | 6.5 | 11.8 | <1.0 | 5.5 |
| 21 | 03.05.2024 | 57.5 | 23.8 | 7.1 | 13.4 | <1.0 | 6.2 |
| 22 | 06.05.2024 | 56.6 | 24.2 | 5.2 | 11.8 | <1.0 | 5.5 |
| 23 | 09.05.2024 | 53.8 | 23.6 | 6.8 | 13.4 | <1.0 | 7.1 |
| 24 | 12.05.2024 | 55.3 | 21.7 | 8 | 12.7 | <1.0 | 6.2 |
| 25 | 15.05.2024 | 54.5 | 22.8 | 6.8 | 13.8 | <1.0 | 6.3 |
| 26 | 18.05.2024 | 53.7 | 24.1 | 7.2 | 15.2 | <1.0 | 5.5 |
| 27 | 21.05.2024 | 52.4 | 22.5 | 5.7 | 13.2 | <1.0 | 6.4 |
| 28 | 24.05.2024 | 54.5 | 23.2 | 6.4 | 12.7 | <1.0 | 5.6 |
| 29 | 27.05.2024 | 53.3 | 22.5 | 6.3 | 13.3 | <1.0 | 7.1 |
| 30 | 30.05.2024 | 54.2 | 23.4 | 7.2 | 12.6 | 1 | 6.5 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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CB-QMS-035

## TEST REPORT

**Certificate No. AA(M)/24-25/1140** **Date: August 30, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .

: Site Address :- Location – Mangalpur , Block – Raniganj , Dist – Paschim Bardhaman

**Description of Sample** : Ambient Air .

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 4 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 ($\mu g/m^3$) | PM 2.5 ($\mu g/m^3$) | $SO_2$ ($\mu g/m^3$) | $NO_x$ ($\mu g/m^3$) | CO (ppm) | Si ($\mu g/m^3$) |
| 1 | 09.03.2024 | 56.9 | 22.8 | 6.2 | 12.3 | <1.0 | 5.9 |
| 2 | 12.03.2024 | 58.6 | 22.6 | 6.5 | 13.6 | <1.0 | 5.8 |
| 3 | 15.03.2024 | 59.5 | 22.5 | 6.1 | 13.9 | <1.0 | 7.2 |
| 4 | 18.03.2024 | 59.7 | 23.8 | 7.2 | 12.5 | 1 | 7.4 |
| 5 | 21.03.2024 | 60.3 | 22.2 | 6.4 | 13.7 | <1.0 | 6.5 |
| 6 | 24.03.2024 | 61.6 | 23.3 | 7.3 | 12.2 | <1.0 | 5.9 |
| 7 | 27.03.2024 | 60.3 | 24.2 | 5.9 | 11.3 | <1.0 | 8.1 |
| 8 | 30.03.2024 | 61.8 | 23.6 | 6.4 | 13.8 | <1.0 | 6.8 |
| 9 | 02.04.2024 | 59.7 | 23.9 | 8.1 | 11.2 | 1 | 5.2 |
| 10 | 05.04.2024 | 62.5 | 22.1 | 7.2 | 13.4 | <1.0 | 7.2 |
| 11 | 08.04.2024 | 61.3 | 24.5 | 6.2 | 10.9 | <1.0 | 6.4 |
| 12 | 11.04.2024 | 58.4 | 26.4 | 8 | 14.3 | 1 | 5.4 |
| 13 | 14.04.2024 | 59.2 | 21.2 | 7.1 | 11.3 | <1.0 | 6.6 |
| 14 | 17.04.2024 | 61.8 | 24.3 | 6.6 | 13.4 | <1.0 | 5.6 |
| 15 | 20.04.2024 | 60.3 | 24.4 | 6.4 | 12.2 | 1 | 4.8 |
| 16 | 23.04.2024 | 57.9 | 23.8 | 6.9 | 13.9 | <1.0 | 6.6 |
| 17 | 26.04.2024 | 61.9 | 22.6 | 5.7 | 14.1 | 1 | 5.4 |
| 18 | 29.04.2024 | 62.1 | 25.4 | 7.7 | 11.2 | <1.0 | 4.5 |
| 19 | 02.05.2024 | 59.8 | 24.1 | 6.6 | 13.9 | 1 | 7 |
| 20 | 05.05.2024 | 60.3 | 24.7 | 6.5 | 12.8 | <1.0 | 6.4 |
| 21 | 08.05.2024 | 61.3 | 24.9 | 6.4 | 12.2 | <1.0 | 7.3 |
| 22 | 11.05.2024 | 61.2 | 26.3 | 6.2 | 12.9 | <1.0 | 5.9 |
| 23 | 14.05.2024 | 60.5 | 24.6 | 7.6 | 14.6 | <1.0 | 7.2 |
| 24 | 17.05.2024 | 58.9 | 20.5 | 6.3 | 13.5 | <1.0 | 5.4 |
| 25 | 20.05.2024 | 59.5 | 24.4 | 7.5 | 12.4 | 1 | 6.4 |
| 26 | 23.05.2024 | 58.6 | 23.6 | 8.1 | 14.6 | <1.0 | 5.6 |
| 27 | 26.05.2024 | 60.9 | 21.4 | 6.5 | 13.7 | <1.0 | 7.2 |
| 28 | 29.05.2024 | 61.6 | 24.6 | 5.8 | 13.2 | <1.0 | 6.3 |
| 29 | 01.05.2024 | 62.1 | 23.9 | 6.7 | 11.9 | 1 | 8.1 |
| 30 | 04.06.2024 | 60.5 | 24.4 | 6.9 | 13.6 | <1.0 | 7.2 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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## TEST REPORT

**Certificate No. AA(M)/24-25/1151** **Date: August 30, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .

: Site Address :- Location – Ketna, Block – Galsi-II, Dist – Purba Bardhaman

**Description of Sample** : Ambient Air .

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 5 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 (µg/m³) | PM 2.5 (µg/m³) | $SO_2$ (µg/m³) | $NO_x$ (µg/m³) | CO (ppm) | Si (µg/m³) |
| 1 | 01.03.2024 | 58.8 | 22.5 | 5.6 | 13.3 | <1.0 | 5.9 |
| 2 | 04.03.2024 | 59.6 | 23.4 | 6.3 | 12.6 | <1.0 | 6.3 |
| 3 | 07.03.2024 | 60.9 | 22.6 | 7.4 | 13.8 | <1.0 | 6.4 |
| 4 | 10.03.2024 | 59.3 | 24.3 | 6.5 | 14.4 | <1.0 | 7.5 |
| 5 | 13.03.2024 | 61.7 | 26.8 | 6.3 | 13.6 | <1.0 | 7.1 |
| 6 | 16.03.2024 | 62.5 | 23.6 | 7.7 | 16.1 | <1.0 | 5.8 |
| 7 | 19.03.2024 | 61.6 | 24.2 | 6.3 | 15.2 | <1.0 | 7.3 |
| 8 | 22.03.2024 | 60.8 | 25.3 | 6.4 | 14.3 | <1.0 | 4.9 |
| 9 | 25.03.2024 | 62.5 | 26.2 | 8.2 | 13.4 | <1.0 | 7.1 |
| 10 | 28.03.2024 | 63.2 | 25.4 | 7.9 | 12.6 | <1.0 | 8 |
| 11 | 31.03.2024 | 62.3 | 23.6 | 6.6 | 11.9 | <1.0 | 6.2 |
| 12 | 03.04.2024 | 63.4 | 26.7 | 6.4 | 14.2 | <1.0 | 6.3 |
| 13 | 06.04.2024 | 62.7 | 27.1 | 7.2 | 15 | <1.0 | 6.7 |
| 14 | 09.04.2024 | 60.9 | 25.5 | 8.1 | 13.8 | <1.0 | 7.2 |
| 15 | 12.04.2024 | 62.6 | 23.3 | 6.8 | 12.9 | <1.0 | 6.6 |
| 16 | 15.04.2024 | 59.5 | 24.4 | 7.1 | 13.6 | <1.0 | 5.8 |
| 17 | 18.04.2024 | 63.1 | 22.5 | 6.3 | 14.1 | <1.0 | 6.7 |
| 18 | 21.04.2024 | 64.2 | 23.8 | 5.9 | 14.2 | <1.0 | 7.1 |
| 19 | 24.04.2024 | 63.3 | 24.3 | 6.2 | 12.7 | <1.0 | 6.9 |
| 20 | 27.04.2024 | 62.4 | 23.2 | 6.9 | 13.6 | <1:0 | 7.2 |
| 21 | 30.04.2024 | 58.9 | 22.1 | 7.4 | 15.2 | 1 | 6.8 |
| 22 | 03.05.2024 | 64.7 | 26.6 | 6.1 | 16 | <1.0 | 5.6 |
| 23 | 06.05.2024 | 65.6 | 25.8 | 8.2 | 13.7 | <1.0 | 6.2 |
| 24 | 09.05.2024 | 62.5 | 23.7 | 6.7 | 15.8 | <1.0 | 7.8 |
| 25 | 12.05.2024 | 63.3 | 22.5 | 9.1 | 14.7 | <1.0 | 6.3 |
| 26 | 15.05.2024 | 59.4 | 21.9 | 6.9 | 12.6 | <1.0 | 6.4 |
| 27 | 18.05.2024 | 61.6 | 23.4 | 7.2 | 13.2 | <1.0 | 7.1 |
| 28 | 21.05.2024 | 62.1 | 24.2 | 6.3 | 15.1 | <1.0 | 8.2 |
| 29 | 24.05.2024 | 64.2 | 25.1 | 7.6 | 16.3 | <1.0 | 6.7 |
| 30 | 27.05.2024 | 63.3 | 24.8 | 6.4 | 12.9 | <1.0 | 6 |
| 31 | 30.05.2024 | 60.4 | 23.5 | 6.7 | 13.8 | <1.0 | 7.6 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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CB-QMS-035

## TEST REPORT

**Certificate No. AA(M)/24-25/1127** **Date: August 30, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235 .

: Site Address :- Location – Gopalpur , Block – Raina-I, Dist – Purba Bardhaman

**Description of Sample** : Ambient Air .

**TEST FINDINGS :**

| Sl. No | Date | Collection Source : AQ - 6 | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM 10 (µg/m$^3$) | PM 2.5 (µg/m$^3$) | $SO_2$ (µg/m$^3$) | $NO_x$ (µg/m$^3$) | CO (ppm) | Si (µg/m$^3$) |
| 1 | 02.03.2024 | 56.5 | 25.2 | 6.2 | 11.4 | <1.0 | 5.8 |
| 2 | 05.03.2024 | 57.6 | 24.7 | 7.2 | 13.4 | 1 | 6.2 |
| 3 | 08.03.2024 | 57.8 | 26.3 | 6.5 | 14.4 | <1.0 | 6.3 |
| 4 | 11.03.2024 | 56.7 | 27.1 | 5.6 | 15.6 | <1.0 | 6.5 |
| 5 | 14.03.2024 | 57.8 | 26.2 | 6.7 | 13.6 | <1.0 | 7.1 |
| 6 | 17.03.2024 | 58.1 | 27 | 7.4 | 13.4 | <1.0 | 5.8 |
| 7 | 20.03.2024 | 56.8 | 26.1 | 6.2 | 12.2 | <1.0 | 6.1 |
| 8 | 23.03.2024 | 58.6 | 25.2 | 5.2 | 14.5 | <1.0 | 5.5 |
| 9 | 26.03.2024 | 59 | 24.7 | 7.4 | 11.6 | 1 | 5.8 |
| 10 | 29.03.2024 | 58.1 | 23.8 | 5.6 | 12.4 | <1.0 | 5.7 |
| 11 | 01.04.2024 | 57.8 | 26.3 | 5.8 | 13.2 | <1.0 | 6.2 |
| 12 | 04.04.2024 | 56.7 | 25.6 | 6.5 | 12.5 | 1 | 5.6 |
| 13 | 07.04.2024 | 59.2 | 28 | 6.4 | 13.3 | <1.0 | 5.8 |
| 14 | 10.04.2024 | 58.1 | 25.1 | 7.1 | 14.2 | <1.0 | 6 |
| 15 | 13.04.2024 | 57.2 | 23.9 | 6.3 | 13.7 | <1.0 | 6.1 |
| 16 | 16.04.2024 | 58.1 | 25.5 | 4.8 | 13.5 | <1.0 | 6.2 |
| 17 | 19.04.2024 | 56.3 | 23.6 | 5.3 | 15.9 | <1.0 | 5.7 |
| 18 | 22.04.2024 | 57.2 | 24.8 | 7.2 | 14.4 | 1 | 6.1 |
| 19 | 25.04.2024 | 58.3 | 26.4 | 6.5 | 13.7 | <1.0 | 5.8 |
| 20 | 28.04.2024 | 59.1 | 27.1 | 6.3 | 11.8 | <1.0 | 6.2 |
| 21 | 01.05.2024 | 56.8 | 25.5 | 7.1 | 15.5 | <1.0 | 5.8 |
| 22 | 04.05.2024 | 58.1 | 24.8 | 5.5 | 13.6 | <1.0 | 5.7 |
| 23 | 07.05.2024 | 57.2 | 26.3 | 6.3 | 14.7 | 1 | 6.1 |
| 24 | 10.05.2024 | 55.8 | 25.2 | 5.8 | 15.8 | <1.0 | 7.7 |
| 25 | 13.05.2024 | 56.7 | 23.7 | 4.8 | 13.4 | <1.0 | 6.2 |
| 26 | 16.05.2024 | 58.1 | 26.4 | 6.4 | 14.2 | <1.0 | 6.8 |
| 27 | 19.05.2024 | 59.2 | 25.2 | 7.1 | 15.2 | <1.0 | 7.1 |
| 28 | 22.05.2024 | 60.1 | 25.1 | 7 | 16.6 | 1 | 6.8 |
| 29 | 25.05.2024 | 59.4 | 24.8 | 6.6 | 15.5 | <1.0 | 6.2 |
| 30 | 28.05.2024 | 58.3 | 26.2 | 5.7 | 15.4 | <1.0 | 7.1 |
| 31 | 31.05.2024 | 57.2 | 25.5 | 6.6 | 14.4 | <1.0 | 5.8 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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## TEST REPORT

**SAMPLE DRAWN BY US:**

**Certificate No. NL(M)/24-25/0037 to 0040** **Date: August 20, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bhadur Sasti Road , Kannagar , Hooghly , West Bengal - 712235

: Site Address : 09. Location-Ouri, Block-Khanda Ghosh, Dist-Purba Bardhaman (N-3)
10. Location-Sikarpur, Block-Galsi-1, Dist-Purba Bardhaman (N-14)
11. Location-Bamunia, Block Raina-1, Dist-Purba Bardhaman (N-7)
12. Location-Haripur, Block-Raina-1, Dist-Purba Bardhaman (N-8)

**Description of Sample** : Ambient Noise Level.

**TEST FINDINGS :**

| Date | Time | Day Time Noise Level in dB(A)-Leq | | | | |
|---|---|---|---|---|---|---|
| | | N-3 | N-14 | Date | N-7 | N-8 |
| 09-05-2024 | 6 A.M. - 7 A.M. | 51.6 | 41.2 | 11-05-2024 | 43 | 44.6 |
| | 7 A.M. - 8 A.M. | 52.3 | 42.5 | | 44.5 | 45.8 |
| | 8 A.M. - 9 A.M. | 53 | 43.5 | | 45.4 | 46.3 |
| | 9 A.M. - 10 A.M. | 54.2 | 44.4 | | 46.2 | 47.5 |
| | 10 A.M. - 11 A.M. | 55.4 | 45.6 | | 47.3 | 48.6 |
| | 11 A.M. - 12 P.M. | 56.2 | 46.3 | | 48.8 | 49.4 |
| | 12 P.M. - 1 P.M. | 57.5 | 47.4 | | 49.4 | 50.8 |
| | 01 P.M. - 2 P.M. | 58.6 | 48.2 | | 50.4 | 51.2 |
| | 2 P.M. - 3 P.M. | 59.4 | 49.3 | | 51.5 | 52.1 |
| | 3 P.M. - 4 P.M. | 59.5 | 50.5 | | 50.2 | 53.3 |
| | 4 P.M. - 5 P.M. | 60.3 | 51.4 | | 49.7 | 52.5 |
| | 5 P.M. - 6 P.M. | 61.4 | 52.4 | | 48.1 | 51.4 |
| | 6 P.M. - 7 P.M. | 60.6 | 51.5 | | 47.9 | 50.7 |
| | 7 P.M. - 8 P.M. | 59.7 | 50.3 | | 46.6 | 49.9 |
| | 8 P.M. - 9 P.M. | 58.3 | 49.2 | | 45.4 | 48.7 |
| | 9 P.M. - 10 P.M. | 57.4 | 48 | | 44.6 | 47.1 |
| **Date** | **Time** | **Night Time Noise Level in dB(A)-Leq** | | | | |
| | | N-3 | N-14 | Date | N-7 | N-8 |
| 09-05-2024 | 10 P.M. - 11 P.M. | 57 | 47.5 | 11-05-2024 | 43.5 | 46 |
| | 11 P.M. - 12 A.M. | 56.8 | 46.6 | | 42.5 | 45.6 |
| 10-05-2024 | 12 A.M. - 1 A.M. | 55.5 | 45.4 | 12-05-2024 | 41.3 | 44.2 |
| | 1 A.M. - 2 A.M. | 54.2 | 44.7 | | 40.4 | 43.2 |
| | 2 A.M. - 3 A.M. | 53.4 | 43.5 | | 40.2 | 42.3 |
| | 3 A.M. - 4 A.M. | 52.3 | 42.4 | | 41.4 | 41 |
| | 4 A.M. - 5 A.M. | 50.5 | 41.3 | | 42.4 | 40.6 |
| | 5 A.M. - 6 A.M. | 51 | 41 | | 42 | 42.5 |

**Note: Limits as per CPCB for Residencial Area, Day Time (6:00 am to 10:00 pm) : 55 dB(A) , Night Time (10:00 pm to 6:00 am): 45 dB(A) Commercial area Day Time (6:00 am to 10:00 pm) : 65 dB(A) , Night Time (10:00 pm to 6:00 am): 55 dB(A)**

N D INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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CB-QMS-035

## TEST REPORT

**SAMPLE DRAWN BY US:**

**Certificate No. NL(M)/24-25/0005 to 0008** **Date: August 20, 2024** **Page -1 of 1**

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bahadur Sastri Road , Kannagar , Hooghly , West Bengal - 712235

: Site Address : 05.Location-Gaitanpur, Block-Khanda Ghosh, Dist-Purba Bardhaman (N-1)
06. Location-Kanchan Nagar, Block-Bardhaman-1, Dist-Purba Bardhaman (N-2)
07. Location-Telipukur Bus Stand, Block- Bardhaman-1, Dist-Purba Bardhaman (N-4)
08. Location-Gopalpur, Block-Raina-1, Dist-Purba Bardhaman (N-6)

**Description of Sample** : Ambient Noise Level.

**TEST FINDINGS :**

| Date | Time | Day Time Noise Level in dB(A)-Leq | | | | |
|---|---|---|---|---|---|---|
| | | N-1 | N-2 | Date | N-4 | N-6 |
| 05-04-2024 | 6 A.M. - 7 A.M. | 41.4 | 45.4 | 07-04-2024 | 62 | 64 |
| | 7 A.M. - 8 A.M. | 42.6 | 46.3 | | 64.2 | 65.2 |
| | 8 A.M. - 9 A.M. | 44.2 | 46.8 | | 63.8 | 66.5 |
| | 9 A.M. - 10 A.M. | 44.5 | 47.3 | | 64.6 | 66.8 |
| | 10 A.M. - 11 A.M. | 45.8 | 48.4 | | 65.4 | 67.5 |
| | 11 A.M. - 12 P.M. | 46.4 | 49.8 | | 66.2 | 68.1 |
| | 12 P.M. - 1 P.M. | 47.7 | 50.2 | | 67.3 | 69.2 |
| | 01 P.M. - 2 P.M. | 48.6 | 51.7 | | 68.5 | 70.3 |
| | 2 P.M. - 3 P.M. | 49.3 | 52.3 | | 70.8 | 69.5 |
| | 3 P.M. - 4 P.M. | 47.4 | 53 | | 69.1 | 68.4 |
| | 4 P.M. - 5 P.M. | 46.5 | 52.4 | | 68.5 | 67.6 |
| | 5 P.M. - 6 P.M. | 45.6 | 51.2 | | 67.6 | 66.2 |
| | 6 P.M. - 7 P.M. | 44.1 | 50.2 | | 66.4 | 65.3 |
| | 7 P.M. - 8 P.M. | 43.2 | 49.2 | | 65.2 | 64.3 |
| | 8 P.M. - 9 P.M. | 42.8 | 48.2 | | 64.3 | 63.4 |
| | 9 P.M. - 10 P.M. | 42.4 | 47.4 | | 63.4 | 62.5 |

| Date | Time | Night Time Noise Level in dB(A)-Leq | | | | |
|---|---|---|---|---|---|---|
| | | N-1 | N-2 | Date | N-4 | N-6 |
| 05-04-2024 | 10 P.M. - 11 P.M. | 42.4 | 46.5 | 07-04-2024 | 62.5 | 61.6 |
| | 11 P.M. - 12 A.M. | 41.6 | 45.4 | | 61.4 | 60.5 |
| 06-04-2024 | 12 A.M. - 1 A.M. | 40.5 | 44.2 | 08-04-2024 | 60.2 | 59.3 |
| | 1 A.M. - 2 A.M. | 41.8 | 43.3 | | 59.8 | 58.4 |
| | 2 A.M. - 3 A.M. | 40.4 | 42.8 | | 58.9 | 57.5 |
| | 3 A.M. - 4 A.M. | 41.7 | 41.4 | | 57.4 | 56.6 |
| | 4 A.M. - 5 A.M. | 42.2 | 40.6 | | 56.3 | 58.3 |
| | 5 A.M. - 6 A.M. | 43.3 | 43.5 | | 55.6 | 60.4 |

Note: Limits as per CPCB for Residencial Area, Day Time (6:00 am to 10:00 pm) : 55 dB(A) , Night Time (10:00 pm to 6:00 am): 45 dB(A) Commercial area Day Time (6:00 am to 10:00 pm) : 65 dB(A) , Night Time (10:00 pm to 6:00 am): 55 dB(A)

N. D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO
(Authorised Signatory)

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# N. D. INTERNATIONAL

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CB-QMS-035

## TEST REPORT

Format No.: NDI/FM/81
Date: 08.04.2024


Certificate No.: SL(D)-(NN)/24-25/00314

SAMPLE SUBMITTED BY PARTY :

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, |
| | : West Bengal, 712235. |
| Description of Sample | : Soil |
| Collection Source | : S- 01, Location- Gaitanpur, Block- Khanda Ghosh, |
| | : District- Purba Bardhman. |
| Sampling Done by | : Mr. A. Jahid & P. Malik. |
| Environmental Condition | : Temperature: 42°C, Humidity: 64% Sample Quantity : 500g |
| Sample Drawn on | : 01.04.2024 Sample Received on : 03.04.2024 |
| Analysis Started on | : 04.04.2024 |
| Analysis Completed on | : 08.04.2024 |

### A. CHEMICAL TEST FINDINGS :

| Sl. No. | Test Parameters | Test Method | Unit | Result |
|---|---|---|---|---|
| 1 | Electrical Conductivity (1: 2.5 Aqeous solution) | IS 14767 : 2000 134 | µs/cm | 317 |
| 2 | Nitrogen | IS 14684:1999 | % | 0.01 |
| 3 | Moisture | IS 2720 (Part-2) :1973 | % | 6.6 |
| 4 | Specific Gravity | NDI/CHEM/SOP/S-03 | -- | 2.71 |
| 5 | Bulk Density | FAO Method: 2007 | gm/cm$^3$ | 1.49 |
| 6 | Phosphorus as P | FAO: (METHOD)U.N 2007 | mg/g | 0.165 |
| 7 | Potassium as K | 13.1 of FAO : 2007 | mg/g | 0.125 |
| 8 | Sodium Absorbtion Ratio (SAR) | IS 11624:2019 | - | 1.65 |
| 9 | Permeability | NDI/CHEM/SOP/S-05 | cm/h | 33.1 |
| 10 | Calcium as Ca | The Fertilizer Control Order 1985 | mg/g | 0.95 |
| Texture of Soil | | | | |
| 11 | Gravel | FAO Method: 2007 | % | Nil |
| 12 | Sand | FAO Method: 2007 | % | 90.6 |
| 13 | Slit | FAO Method: 2007 | % | 5.2 |
| 14 | Clay | FAO Method: 2007 | % | 4.2 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For, N.D. International

K. P. De - CEO
(Authorised Signatory)

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3. The remaining sample after test will be retained for 15 days from the date of issue of certificate.

NS

# N. D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company | Certificate : 23DQMS20

CB-QMS-035

## TEST REPORT

Format No.: NDI/FM/81
Date: 08.04.2024
Page 1 of 1

Certificate No.: SI (D)-(NN)/24-25/00315
SAMPLE SUBMITTED BY PARTY :

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, |
| | : West Bengal, 712235. |
| Description of Sample | : Soil |
| Collection Source | : S- 02, Location- Kanchan Nagar, Block- Bardhaman- I, |
| | : District- Purba Bardhman. |
| Sampling Done by | : Mr. A. Jahid & P. Malik. |
| Environmental Condition | : Temperature: 42°C, Humidity: 64% Sample Quantity : 500g |
| Sample Drawn on | : 01.04.2024 Sample Received on : 03.04.2024 |
| Analysis Started on | : 04.04.2024 |
| Analysis Completed on | : 08.04.2024 |

### A. CHEMICAL TEST FINDINGS :

| Sl. No. | Test Parameters | Test Method | Unit | Result |
|---|---|---|---|---|
| 1 | Electrical Conductivity (1: 2.5 Aqeous solution) | IS 14767 : 2000 134 | µs/cm | 235 |
| 2 | Nitrogen | IS 14684:1999 | % | 0.016 |
| 3 | Moisture | IS 2720 (Part-2) :1973 | % | 12.5 |
| 4 | Specific Gravity | NDI/CHEM/SOP/S-03 | -- | 2.62 |
| 5 | Bulk Density | FAO Method: 2007 | gm/cm$^3$ | 1.1 |
| 6 | Phosphorus as P | FAO: (METHOD)U.N 2007 | mg/g | 0.121 |
| 7 | Potassium as K | 13.1 of FAO : 2007 | mg/g | 0.098 |
| 8 | Sodium Absorbtion Ratio (SAR) | IS 11624:2019 | - | 1.8 |
| 9 | Permeability | NDI/CHEM/SOP/S-05 | cm/h | 32.6 |
| 10 | Calcium as Ca | The Fertilizer Control Order 1985 | mg/g | 0.69 |
| Texture of Soil | | | | |
| 11 | Gravel | FAO Method: 2007 | % | Nil |
| 12 | Sand | FAO Method: 2007 | % | 60.5 |
| 13 | Slit | FAO Method: 2007 | % | 17.2 |
| 14 | Clay | FAO Method: 2007 | % | 22.3 |

...END OF TEST REPORT...

N. D. INTERNATIONAL KOLKATA

For, N.D. International

K. P. De - CEO
(Authorised Signatory)

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# N. D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company | Certificate : 23DQMS20

CB-QMS-035

## TEST REPORT

Format No.: NDI/FM/81
Date: 08.04.2024


Certificate No.: SL(D)-(NN)/24-25/00316
SAMPLE SUBMITTED BY PARTY :

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, |
| | : West Bengal, 712235. |
| Description of Sample | : Soil |
| Collection Source | : S- 03, Location- Oari, Block- Khanda Ghosh, District- Purba Bardhman. |
| Sampling Done by | : Mr. A. Jahid & P. Malik. |
| Environmental Condition | : Temperature: 42°C, Humidity: 64% Sample Quantity : 500g |
| Sample Drawn on | : 01.04.2024 Sample Received on : 03.04.2024 |
| Analysis Started on | : 04.04.2024 |
| Analysis Completed on | : 08.04.2024 |

### A. CHEMICAL TEST FINDINGS :

| SL No. | Test Parameters | Test Method | Unit | Result |
|---|---|---|---|---|
| 1 | Electrical Conductivity (1: 2.5 Aqeous solution) | IS 14767 : 2000 134 | µs/cm | 335 |
| 2 | Nitrogen | IS 14684:1999 | % | 0.021 |
| 3 | Moisture | IS 2720 (Part-2) :1973 | % | 16.1 |
| 4 | Specific Gravity | NDI/CHEM/SOP/S-03 | -- | 2.59 |
| 5 | Bulk Density | FAO Method: 2007 | $gm/cm^3$ | 1.08 |
| 6 | Phosphorus as P | FAO: (METHOD)U.N 2007 | mg/g | 0.161 |
| 7 | Potassium as K | 13.1 of FAO : 2007 | mg/g | 0.153 |
| 8 | Sodium Absorbtion Ratio (SAR) | IS 11624:2019 | - | 1.1 |
| 9 | Permeability | NDI/CHEM/SOP/S-05 | cm/h | 12.6 |
| 10 | Calcium as Ca | The Fertilizer Control Order 1985 | mg/g | 0.89 |
| Texture of Soil | | | | |
| 11 | Gravel | FAO Method: 2007 | % | Nil |
| 12 | Sand | FAO Method: 2007 | % | 22.8 |
| 13 | Slit | FAO Method: 2007 | % | 26.6 |
| 14 | Clay | FAO Method: 2007 | % | 50.6 |

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N. D. INTERNATIONAL KOLKATA

For, N.D. International

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(Authorised Signatory)

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0697 Dated: 12.03.2023

SAMPLE DRAWN BY US : 

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Ground Water |
| Collection Source | : Mouza- Pachagerya, Bolck- Nayagram, GW- 01. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 40°C, Humidity : 61% |
| Sample Drawn on | : 06.03.2023 |
| Sample Received on | : 06.03.2023 |
| Analysis Started on | : 06.03.2023 |
| Analysis Completed on | : 12.03.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.5 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 124 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 17.48 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.22 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.50 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 21.6 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 88 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 0.8 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 26 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 16 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 46 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0694 Dated: 12.03.2023

SAMPLE DRAWN BY US : 

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Ground Water |
| Collection Source | : Mouza- Chunkhuli, Bolck- Nayagram, GW- 02. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 40°C, Humidity : 61% |
| Sample Drawn on | : 06.03.2023 |
| Sample Received on | : 06.03.2023 |
| Analysis Started on | : 06.03.2023 |
| Analysis Completed on | : 12.03.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.5 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 54 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 18.46 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.28 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.20 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 13.7 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 14 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 0.4 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 87 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 22 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 92 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0698 Dated: 12.03.2023

SAMPLE DRAWN BY US : 

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Ground Water |
| Collection Source | : Mouza- Tarrui, Bolck- Dantan, GW- 03. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 40°C, Humidity : 61% |
| Sample Drawn on | : 06.03.2023 |
| Sample Received on | : 06.03.2023 |
| Analysis Started on | : 06.03.2023 |
| Analysis Completed on | : 12.03.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.5 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 144 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 9.71 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.14 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.40 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 13.3 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 96 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 1.0 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 30 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 9 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 39 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0703 Dated: 12.03.2023

SAMPLE DRAWN BY US : 

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Ground Water |
| Collection Source | : Mouza- Rajnagar, Bolck- Dantan- 1, G- 4. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 40°C, Humidity : 61% |
| Sample Drawn on | : 06.03.2023 |
| Sample Received on | : 06.03.2023 |
| Analysis Started on | : 06.03.2023 |
| Analysis Completed on | : 12.03.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.5 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 208 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 38.85 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.13 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.30 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 27.3 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^{2-}$D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 136 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 1.4 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 18 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 9 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 39 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

For, N.D. International

K.P. De - CEO
Authorised Signatory

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2. Results relate only to the parameters tested.
3. The remaining sample after test will be retained for 15 days from the date of issue of certificate.

DH

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E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0859 Dated: 15.04.2023
SAMPLE DRAWN BY US : 

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Surface Water |
| Collection Source | : Mouza- Jhaipurpanchkanya, Bolck- Nayagram, Subarnarekha River, SW- 01. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 42°C, Humidity : 64% |
| Sample Drawn on | : 09.04.2023 |
| Sample Received on | : 10.04.2023 |
| Analysis Started on | : 10.04.2023 |
| Analysis Completed on | : 15.04.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.6 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 90 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 10.5 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.15 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.20 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | <5 (DL:5) | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 55 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 0.6 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 14 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 13 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 50 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit
As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.
Remarks : Bacteriologically : Satisfactory for the above tested parameters.
Chemically : Satisfactory for the above tested parameters.
Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International
Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International
K.P. De - CEO
Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED
An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/0865 Dated: 15.04.2023
SAMPLE DRAWN BY US : Page - 1 of 1

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Surface Water |
| Collection Source | : Mouza- Hijalbani, Block- Nayagram, SW- 2. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 42°C, Humidity : 64% |
| Sample Drawn on | : 09.04.2023 |
| Sample Received on | : 10.04.2023 |
| Analysis Started on | : 10.04.2023 |
| Analysis Completed on | : 15.04.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.6 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 45 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 12.48 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.22 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.26 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 14.8 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 20 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 0.82 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 24 | 100 mg/L (max) | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 15 | 30 mg/L (max) | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 52 | 250 mg/L (max) | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit
As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.
Remarks : Bacteriologically : Satisfactory for the above tested parameters.
Chemically : Satisfactory for the above tested parameters.
Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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# N.D. INTERNATIONAL

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Emirates International Accreditation Centre
035-CB-QMS

## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/01000 — Dated: 13.05.2023

SAMPLE DRAWN BY US : — Page - 1 of 1

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Surface Water |
| Collection Source | : Mouza- Pachagerya, Bolck- Nayagram (Pond Water) SW- 03. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 42°C, Humidity : 65% |
| Sample Drawn on | : 07.05.2023 |
| Sample Received on | : 07.05.2023 |
| Analysis Started on | : 07.05.2023 |
| Analysis Completed on | : 13.05.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab — Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.6 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 122 | 500 | 2000 |

**C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :**

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 28.4 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.18 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.52 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 16.2 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 70 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 1.4 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 20 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 12 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 42 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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## TEST REPORT

Certificate No.: W(D)-(NN)/23-24/01003 — Dated: 13.05.2023

SAMPLE DRAWN BY US : — Page - 1 of 1

| | |
|---|---|
| Name of Customer | : M/s. Geosumukh Inframines Private Limited. |
| Address | : 75/A/27, Lal Bahadur Sastri Road, Konnagar, Hooghly, West Bengal, 712235. |
| Description of Sample | : Surface Water |
| Collection Source | : Mouza- Tarrul, Bolck- Dantan (Pond Water) SW- 04. |
| Sampling Done by | : Mr. A. Mondal & R. Mondal |
| Environmental Condition | : Temperature : 42°C, Humidity : 65% |
| Sample Drawn on | : 07.05.2023 |
| Sample Received on | : 07.05.2023 |
| Analysis Started on | : 07.05.2023 |
| Analysis Completed on | : 13.05.2023 |
| Method of Sampling | : IS-1622:1981, IS-17614(P-25):2022(Bact), IS-17614(P-5):2021(Chem), |
| Mode of Sampling | : Grab — Sampling Plan:NDI/FM/52A |

**A. MICROBIOLOGICAL TEST FINDINGS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 |
|---|---|---|---|---|---|
| 1 | Total Coliform/100ml @ 37°C for 24 hours | IS 1622 | Cfu | <1 (DL:1) | Not Detectable |
| 2 | E. coli/100 ml @ 44.5°C for 24 hours | | – | Absent | Not Detectable |

**B. ORGANOLEPTIC & PHYSICAL PARAMETERS :**

| Sl. No. | Test Parameters | Test Method | Unit | Results | Norms as per IS 10500 : 2012 | |
|---|---|---|---|---|---|---|
| | | | | | AL(Max.) | PL(Max.) |
| 3 | pH at 25°C | APHA 23rd Edn, 4500 $H^+$ B | --- | 6.8 | 6.5-8.5 | No relaxation |
| 4 | Total Dissolved Solids | APHA 23rd Edn, 2540-C | mg/L | 130 | 500 | 2000 |
| **C. GENERAL PARAMETERS CONCERNING SUBTANCES UNDESIRABLE :** | | | | | | |
| 5 | Chloride (as Cl) | APHA 23rd Edn, 4500 Cl-B | mg/L | 16.5 | 250 | 1000 |
| 6 | Fluoride (as F) | APHA 23rd Edn, 4500-F-C | mg/L | <0.1 (DL:0.1) | 1.0 | 1.5 |
| 7 | Iron (as Fe) | APHA 23rd Edn, 3500- Fe B | mg/L | 0.22 | 0.3 | No relaxation |
| 8 | Nitrate (as $NO_3$) | APHA 23rd Edn, 4500- $NO_3$ B | mg/L | 0.50 | 45 | No relaxation |
| 9 | Sulphate (as $SO_4$) | APHA 23rd Edn, 4500 $SO_4$-B | mg/L | 18.2 | 200 | 400 |
| 10 | Sulphide as ($H_2S$) | APHA 23rd Edn, 4500 $S^2$-D | mg/L | <0.05 (DL:0.05) | 0.05 | No relaxation |
| 11 | Total Hardness (as $CaCO_3$) | APHA 23rd Edn, 2340 C | mg/L | 78 | 200 | 600 |
| 12 | Arsenic (as As) | APHA 23rd Edn, 3113 B | mg/L | <0.002 (DL:0.002) | 0.01 | 0.05 |
| 13 | Dissolved Oxygen | IS 3025 (Part 44) | mg/L | 1.4 | Not Specified | |
| 14 | Total Chromium (as Cr) | APHA 23rd Edn, 3111 D | mg/L | <0.005 (DL:0.005) | 0.05 | No relaxation |
| 15 | Total Suspended Solids | APHA 23rd Edn, 2540 D | mg/L | 18 | Not Specified | |
| 16 | Biochemical Oxygen Demand at 27°C for 3 days | IS 3025 (Part - 44) 1993 | mg/L | 11 | Not Specified | |
| 17 | Chemical Oxygen Demand | APHA 23rd Edn, 5220 B | mg/L | 40 | Not Specified | |

Note : 1. AL - Acceptable Limit. 2. PL - Permissible Limit. 3. DL - Detection Limit

As per IS 10500 Total Coliform should be Not Detectable/100ml, which is equivalent to <1 Cfu/100 ml as per IS: 1622.

Remarks : Bacteriologically : Satisfactory for the above tested parameters.

Chemically : Satisfactory for the above tested parameters.

Statement of Conformity is applied considering Decision Rule as per ISO Guide 98-4.

...END OF TEST REPORT...

For, N.D. International

Sweta Mukherjee
(Microbiologist)
(Authorised Signatory)

N.D. INTERNATIONAL KOLKATA

For, N.D. International

K.P. De - CEO
Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No. W(M)/23-24/0458 Date: June 6 , 2023

Name of Customer : M/s. Geosumukh Inframines Pvt. Ltd.

Address : 75/A/27 , Lal Bhadur Sasti Road , Kannagar , Hooghly , West Bengal - 712235.

: Site Address : Mouja- Karakpur, Block-Dantan-1 .

Description of Sample : Weather Monitoring

Sampling Locaton : M-2

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 01Mar2023 | 1 | 1 | 2.4 | 84.2 | 18.6 | 43.2 | 1015.0 | 0.0 | 0.0 | 2.4 |
| 2023 | 01Mar2023 | 1 | 2 | 2.6 | 124.2 | 18.8 | 46.4 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 01Mar2023 | 1 | 3 | 3.3 | 42.3 | 20.4 | 47.1 | 1017.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 01Mar2023 | 1 | 4 | 4.1 | 77.8 | 22.8 | 48.5 | 1019.2 | 0.0 | 0.0 | 7.2 |
| 2023 | 01Mar2023 | 1 | 5 | 4.5 | 41.7 | 23.4 | 46.5 | 1019.8 | 0.0 | 0.0 | 2.6 |
| 2023 | 01Mar2023 | 1 | 6 | 5.6 | 49.8 | 26.8 | 56.8 | 1015.4 | 488.9 | 0.0 | 2.4 |
| 2023 | 01Mar2023 | 1 | 7 | 6.3 | 62.6 | 27.8 | 57.6 | 1016.5 | 488.7 | 0.0 | 2.8 |
| 2023 | 01Mar2023 | 1 | 8 | 6.6 | 60.8 | 28.0 | 56.2 | 1018.9 | 488.2 | 0.0 | 3.2 |
| 2023 | 01Mar2023 | 1 | 9 | 3.1 | 41.7 | 29.2 | 61.2 | 1021.2 | 524.2 | 0.0 | 2.8 |
| 2023 | 01Mar2023 | 1 | 10 | 2.7 | 49.8 | 29.6 | 52.6 | 1019.8 | 488.7 | 0.0 | 6.2 |
| 2023 | 01Mar2023 | 1 | 11 | 2.0 | 40.7 | 30.6 | 62.8 | 1018.9 | 488.2 | 0.0 | 7.2 |
| 2023 | 01Mar2023 | 1 | 12 | 2.4 | 84.2 | 30.8 | 62.4 | 1021.2 | 524.2 | 0.0 | 2.6 |
| 2023 | 01Mar2023 | 1 | 13 | 2.6 | 124.2 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 2.4 |
| 2023 | 01Mar2023 | 1 | 14 | 3.3 | 42.3 | 32.8 | 63.8 | 1021.8 | 524.2 | 0.0 | 2.8 |
| 2023 | 01Mar2023 | 1 | 15 | 4.1 | 77.8 | 33.2 | 64.2 | 1012.5 | 488.9 | 0.0 | 3.2 |
| 2023 | 01Mar2023 | 1 | 16 | 4.5 | 41.7 | 32.6 | 65.0 | 1019.2 | 488.7 | 0.0 | 4.2 |
| 2023 | 01Mar2023 | 1 | 17 | 5.6 | 49.8 | 32.0 | 64.0 | 1018.4 | 488.2 | 0.0 | 1.8 |
| 2023 | 01Mar2023 | 1 | 18 | 6.3 | 62.6 | 31.2 | 62.3 | 1018.6 | 511.6 | 0.0 | 2.2 |
| 2023 | 01Mar2023 | 1 | 19 | 6.6 | 60.8 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 01Mar2023 | 1 | 20 | 6.5 | 87.0 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 01Mar2023 | 1 | 21 | 6.1 | 116.6 | 28.2 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 01Mar2023 | 1 | 22 | 5.8 | 108.8 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 01Mar2023 | 1 | 23 | 6.1 | 74.7 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 01Mar2023 | 1 | 24 | 5.8 | 67.7 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 02Mar2023 | 2 | 1 | 2.1 | 66.1 | 18.2 | 54.4 | 1012.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 02Mar2023 | 2 | 2 | 2.6 | 40.7 | 18.8 | 55.2 | 1013.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 02Mar2023 | 2 | 3 | 2.6 | 84.2 | 19.4 | 65.2 | 1016.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 02Mar2023 | 2 | 4 | 2.4 | 124.2 | 20.4 | 48.8 | 1017.4 | 0.0 | 0.0 | 7.9 |
| 2023 | 02Mar2023 | 2 | 5 | 1.9 | 4.9 | 21.8 | 49.2 | 1016.8 | 325.8 | 0.0 | 8.9 |
| 2023 | 02Mar2023 | 2 | 6 | 2.4 | 17.3 | 22.0 | 54.3 | 1016.9 | 459.3 | 0.0 | 0.0 |
| 2023 | 02Mar2023 | 2 | 7 | 2.4 | 41.7 | 22.4 | 62.1 | 1015.8 | 452.3 | 0.0 | 7.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 02Mar2023 | 2 | 8 | 2.2 | 49.8 | 23.2 | 49.8 | 1017.2 | 524.2 | 0.0 | 8.4 |
| 2023 | 02Mar2023 | 2 | 9 | 3.4 | 40.7 | 24.6 | 52.0 | 1015.2 | 423.1 | 0.0 | 4.6 |
| 2023 | 02Mar2023 | 2 | 10 | 2.8 | 84.2 | 27.8 | 57.2 | 1014.8 | 580.2 | 0.0 | 2.8 |
| 2023 | 02Mar2023 | 2 | 11 | 2.4 | 67.7 | 28.2 | 60.2 | 1016.2 | 633.2 | 0.0 | 5.4 |
| 2023 | 02Mar2023 | 2 | 12 | 5.2 | 66.1 | 28.8 | 62.2 | 1014.8 | 654.3 | 0.0 | 4.9 |
| 2023 | 02Mar2023 | 2 | 13 | 6.0 | 40.7 | 29.2 | 63.3 | 1016.8 | 453.2 | 0.0 | 4.6 |
| 2023 | 02Mar2023 | 2 | 14 | 1.8 | 84.2 | 33.8 | 64.1 | 1017.8 | 488.5 | 0.0 | 2.8 |
| 2023 | 02Mar2023 | 2 | 15 | 3.8 | 124.2 | 33.2 | 64.3 | 1019.2 | 540.0 | 0.0 | 2.6 |
| 2023 | 02Mar2023 | 2 | 16 | 3.6 | 124.6 | 31.4 | 63.8 | 1014.2 | 623.3 | 0.0 | 2.0 |
| 2023 | 02Mar2023 | 2 | 17 | 5.2 | 88.4 | 30.2 | 60.2 | 1016.2 | 548.2 | 0.0 | 1.8 |
| 2023 | 02Mar2023 | 2 | 18 | 4.6 | 74.7 | 30.0 | 62.2 | 1014.8 | 0.0 | 0.0 | 1.6 |
| 2023 | 02Mar2023 | 2 | 19 | 4.3 | 67.7 | 29.8 | 61.2 | 1016.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 02Mar2023 | 2 | 20 | 2.6 | 66.1 | 28.6 | 61.2 | 1017.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 02Mar2023 | 2 | 21 | 3.2 | 40.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 5.8 |
| 2023 | 02Mar2023 | 2 | 22 | 2.1 | 84.2 | 26.5 | 57.2 | 1014.2 | 0.0 | 0.0 | 4.9 |
| 2023 | 02Mar2023 | 2 | 23 | 4.2 | 124.2 | 26.0 | 56.2 | 1012.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 02Mar2023 | 2 | 24 | 2.8 | 4.9 | 25.3 | 53.2 | 1015.4 | 0.0 | 0.0 | 3.2 |
| 2023 | 03Mar2023 | 3 | 1 | 6.2 | 17.3 | 18.6 | 55.2 | 1016.2 | 0.0 | 0.0 | 2.2 |
| 2023 | 03Mar2023 | 3 | 2 | 6.3 | 41.7 | 20.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 2.0 |
| 2023 | 03Mar2023 | 3 | 3 | 5.6 | 49.8 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 1.1 |
| 2023 | 03Mar2023 | 3 | 4 | 2.1 | 66.1 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 1.4 |
| 2023 | 03Mar2023 | 3 | 5 | 2.6 | 40.7 | 22.0 | 54.3 | 1020.5 | 488.5 | 0.0 | 0.0 |
| 2023 | 03Mar2023 | 3 | 6 | 2.6 | 84.2 | 22.4 | 62.1 | 1016.8 | **562.2** | 0.0 | 4.8 |
| 2023 | 03Mar2023 | 3 | 7 | 2.4 | 124.2 | 24.0 | 49.8 | 1017.8 | **453.2** | 0.0 | 3.2 |
| 2023 | 03Mar2023 | 3 | 8 | 1.9 | 4.9 | 24.6 | 52.0 | 1019.2 | 654.2 | 0.0 | 2.8 |
| 2023 | 03Mar2023 | 3 | 9 | 2.4 | 17.3 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 3.6 |
| 2023 | 03Mar2023 | 3 | 10 | 2.4 | 41.7 | 28.4 | 60.2 | 1015.4 | 488.5 | 0.0 | 2.8 |
| 2023 | 03Mar2023 | 3 | 11 | 2.2 | 49.8 | 30.2 | 62.2 | 1019.2 | **562.2** | 0.0 | 2.8 |
| 2023 | 03Mar2023 | 3 | 12 | 3.4 | 40.7 | 31.2 | 63.3 | 1018.9 | **453.2** | 0.0 | 0.0 |
| 2023 | 03Mar2023 | 3 | 13 | 2.8 | 84.2 | 32.2 | 64.1 | 1021.2 | 654.2 | 0.0 | 0.0 |
| 2023 | 03Mar2023 | 3 | 14 | 2.4 | 67.7 | 32.4 | 64.3 | 1019.8 | 488.5 | 0.0 | 2.8 |
| 2023 | 03Mar2023 | 3 | 15 | 5.2 | 66.1 | 31.4 | 63.8 | 1018.9 | **562.2** | 0.0 | 2.6 |
| 2023 | 03Mar2023 | 3 | 16 | 2.8 | 182.6 | 30.2 | 60.2 | 1021.2 | **453.2** | 0.0 | 3.6 |
| 2023 | 03Mar2023 | 3 | 17 | 3.6 | 128.9 | 30.0 | 62.2 | 1021.6 | 654.2 | 0.0 | 1.4 |
| 2023 | 03Mar2023 | 3 | 18 | 3.2 | 188.9 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 03Mar2023 | 3 | 19 | 4.6 | 189.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.4 |
| 2023 | 03Mar2023 | 3 | 20 | 4.3 | 134.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 03Mar2023 | 3 | 21 | 2.6 | 198.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 03Mar2023 | 3 | 22 | 3.2 | 125.8 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |

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For N.D. International

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 03Mar2023 | 3 | 23 | 4.4 | 164.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 03Mar2023 | 3 | 24 | 2.6 | 188.6 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 0.0 |
| 2023 | 04Mar2023 | 4 | 1 | 4.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 04Mar2023 | 4 | 2 | 5.2 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 04Mar2023 | 4 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 04Mar2023 | 4 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 04Mar2023 | 4 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 252.4 | 0.0 | 0.0 |
| 2023 | 04Mar2023 | 4 | 6 | 3.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 423.1 | 0.0 | 0.0 |
| 2023 | 04Mar2023 | 4 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 560.2 | 0.0 | 8.4 |
| 2023 | 04Mar2023 | 4 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 633.2 | 0.0 | 0.0 |
| 2023 | 04Mar2023 | 4 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 654.3 | 0.0 | 2.8 |
| 2023 | 04Mar2023 | 4 | 10 | 3.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 5.8 |
| 2023 | 04Mar2023 | 4 | 11 | 4.4 | 72.8 | 30.2 | 62.2 | 1016.5 | 560.2 | 0.0 | 4.9 |
| 2023 | 04Mar2023 | 4 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 04Mar2023 | 4 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 654.3 | 0.0 | 3.2 |
| 2023 | 04Mar2023 | 4 | 14 | 2.6 | 82.3 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.2 |
| 2023 | 04Mar2023 | 4 | 15 | 4.2 | 124.2 | 31.4 | 63.8 | 1018.9 | 488.5 | 0.0 | 2.0 |
| 2023 | 04Mar2023 | 4 | 16 | 5.0 | 74.7 | 30.2 | 60.2 | 1021.2 | 288.4 | 0.0 | 1.1 |
| 2023 | 04Mar2023 | 4 | 17 | 3.6 | 67.7 | 30.0 | 62.2 | 1021.6 | 488.5 | 0.0 | 1.4 |
| 2023 | 04Mar2023 | 4 | 18 | 3.1 | 66.1 | 29.8 | 61.2 | 1021.8 | 288.4 | 0.0 | 0.0 |
| 2023 | 04Mar2023 | 4 | 19 | 2.7 | 40.7 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 04Mar2023 | 4 | 20 | 2.3 | 84.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 04Mar2023 | 4 | 21 | 2.8 | 40.7 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 04Mar2023 | 4 | 22 | 2.0 | 84.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 04Mar2023 | 4 | 23 | 2.4 | 110.2 | 24.8 | 43.2 | 1015.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 04Mar2023 | 4 | 24 | 3.1 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.8 |
| 2023 | 05Mar2023 | 1 | 2.3 | 74.7 | 18.4 | 43.2 | 1014.8 | 0.0 | 0.0 | 0.0 | 2.4 |
| 2023 | 05Mar2023 | 2 | 2.8 | 67.7 | 18.8 | 46.4 | 1016.8 | 0.0 | 0.0 | 0.0 | 5.4 |
| 2023 | 05Mar2023 | 3 | 2.0 | 66.1 | 19.6 | 47.1 | 1017.8 | 0.0 | 0.0 | 2.8 | 8.1 |
| 2023 | 05Mar2023 | 4 | 2.4 | 40.7 | 22.4 | 48.5 | 1019.2 | 0.0 | 0.0 | 2.6 | 9.4 |
| 2023 | 05Mar2023 | 5 | 5.1 | 84.2 | 23.4 | 46.5 | 1019.8 | 458.2 | 0.0 | 3.6 | 7.9 |
| 2023 | 05Mar2023 | 6 | 4.2 | 124.2 | 26.8 | 56.8 | 1015.4 | 524.2 | 0.0 | 5.2 | 8.9 |
| 2023 | 05Mar2023 | 7 | 5.0 | 74.7 | 27.8 | 57.6 | 1016.5 | 488.9 | 0.0 | 5.0 | 0.0 |
| 2023 | 05Mar2023 | 8 | 3.6 | 67.7 | 28.0 | 56.2 | 1018.9 | 488.7 | 0.0 | 5.4 | 7.4 |
| 2023 | 05Mar2023 | 9 | 3.1 | 66.1 | 29.2 | 61.2 | 1021.2 | 488.2 | 0.0 | 4.3 | 8.4 |
| 2023 | 05Mar2023 | 10 | 2.7 | 40.7 | 29.6 | 52.6 | 1019.8 | 511.6 | 0.0 | 6.2 | 4.6 |
| 2023 | 05Mar2023 | 11 | 2.3 | 84.2 | 30.6 | 62.8 | 1018.9 | 412.2 | 0.0 | 7.2 | 2.8 |
| 2023 | 05Mar2023 | 12 | 2.8 | 40.7 | 30.8 | 62.4 | 1021.2 | 488.7 | 0.0 | 2.6 | 5.4 |
| 2023 | 05Mar2023 | 13 | 2.0 | 84.2 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 2.4 | 4.9 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 05Mar2023 | 14 | 2.4 | 110.2 | 32.8 | 63.8 | 1021.8 | 511.6 | 0.0 | 2.8 | 4.6 |
| 2023 | 05Mar2023 | 15 | 2.6 | 65.8 | 33.2 | 64.2 | 1012.5 | 412.2 | 0.0 | 3.2 | 2.8 |
| 2023 | 05Mar2023 | 16 | 3.8 | 86.7 | 32.6 | 65.0 | 1019.2 | 488.7 | 0.0 | 4.2 | 2.6 |
| 2023 | 05Mar2023 | 17 | 4.1 | 254.6 | 32.0 | 64.0 | 1018.4 | 488.2 | 0.0 | 1.8 | 2.0 |
| 2023 | 05Mar2023 | 18 | 4.5 | 88.4 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 2.2 | 1.8 |
| 2023 | 05Mar2023 | 19 | 4.8 | 158.6 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 2.3 | 1.6 |
| 2023 | 05Mar2023 | 20 | 6.3 | 89.2 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 2.4 | 3.6 |
| 2023 | 05Mar2023 | 21 | 6.6 | 88.4 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 | 4.4 |
| 2023 | 05Mar2023 | 22 | 6.2 | 86.5 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 | 3.2 |
| 2023 | 05Mar2023 | 23 | 4.8 | 88.4 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 | 2.8 |
| 2023 | 05Mar2023 | 24 | 5.2 | 158.6 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 | 2.4 |
| 2023 | 06Mar2023 | 1 | 3.2 | 89.2 | 18.2 | 39.2 | 1006.8 | 0.0 | 0.0 | 6.2 | 5.4 |
| 2023 | 06Mar2023 | 6 | 2 | 3.2 | 88.4 | 18.6 | 39.6 | 1019.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 06Mar2023 | 6 | 3 | 4.6 | 86.5 | 19.2 | 43.2 | 1018.9 | 0.0 | 0.0 | 7.5 |
| 2023 | 06Mar2023 | 6 | 4 | 5.8 | 83.5 | 20.0 | 47.2 | 1021.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 06Mar2023 | 6 | 5 | 6.2 | 54.3 | 21.6 | 49.2 | 1021.6 | 482.2 | 0.0 | 6.5 |
| 2023 | 06Mar2023 | 6 | 6 | 6.3 | 33.8 | 22.0 | 54.3 | 1021.8 | 452.0 | 0.0 | 7.2 |
| 2023 | 06Mar2023 | 6 | 7 | 4.8 | 24.9 | 22.4 | 62.1 | 1012.5 | 658.0 | 0.0 | 4.5 |
| 2023 | 06Mar2023 | 6 | 8 | 6.9 | 54.8 | 23.2 | 49.8 | 1019.2 | 452.2 | 0.0 | 5.2 |
| 2023 | 06Mar2023 | 6 | 9 | 6.4 | 52.6 | 24.6 | 52.0 | 1018.4 | 653.1 | 0.0 | 6.3 |
| 2023 | 06Mar2023 | 6 | 10 | 6.8 | 39.3 | 26.8 | 57.2 | 1018.6 | 456.8 | 0.0 | 6.7 |
| 2023 | 06Mar2023 | 6 | 11 | 3.2 | 56.8 | 28.4 | 60.2 | 1017.9 | 633.2 | 0.0 | 6.8 |
| 2023 | 06Mar2023 | 6 | 12 | 4.6 | 88.2 | 30.2 | 62.2 | 1019.2 | 654.3 | 0.0 | 4.9 |
| 2023 | 06Mar2023 | 6 | 13 | 5.8 | 74.7 | 31.2 | 63.3 | 1015.2 | 453.2 | 0.0 | 4.6 |
| 2023 | 06Mar2023 | 6 | 14 | 6.2 | 68.4 | 32.2 | 64.1 | 1016.8 | 488.5 | 0.0 | 2.8 |
| 2023 | 06Mar2023 | 6 | 15 | 6.3 | 73.7 | 32.4 | 64.3 | 1006.8 | 288.4 | 0.0 | 2.1 |
| 2023 | 06Mar2023 | 6 | 16 | 4.8 | 65.9 | 31.4 | 63.8 | 1003.2 | 355.2 | 0.0 | 2.0 |
| 2023 | 06Mar2023 | 6 | 17 | 6.9 | 66.1 | 30.2 | 60.2 | 1006.8 | 458.7 | 0.0 | 3.4 |
| 2023 | 06Mar2023 | 6 | 18 | 6.4 | 68.4 | 30.0 | 62.2 | 1006.4 | 0.0 | 0.0 | 1.4 |
| 2023 | 06Mar2023 | 6 | 19 | 6.8 | 49.8 | 29.8 | 61.2 | 1007.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 06Mar2023 | 6 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1006.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 06Mar2023 | 6 | 21 | 5.6 | 66.4 | 27.6 | 67.0 | 1006.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 06Mar2023 | 6 | 22 | 6.2 | 88.9 | 26.5 | 57.2 | 1008.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 06Mar2023 | 6 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1006.3 | 0.0 | 0.0 | 2.6 |
| 2023 | 06Mar2023 | 6 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1007.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 07Mar2023 | 7 | 1 | 4.8 | 66.2 | 18.4 | 43.2 | 1005.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 07Mar2023 | 7 | 2 | 3.5 | 62.2 | 18.8 | 46.4 | 1005.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 07Mar2023 | 7 | 3 | 8.2 | 54.1 | 19.6 | 47.1 | 1006.4 | 0.0 | 0.0 | 1.8 |
| 2023 | 07Mar2023 | 7 | 4 | 5.2 | 48.6 | 22.4 | 48.5 | 1006.2 | 0.0 | 0.0 | 2.6 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 07Mar2023 | 7 | 5 | 6.0 | 47.0 | 23.4 | 46.5 | 1006.4 | 455.2 | 0.0 | 3.6 |
| 2023 | 07Mar2023 | 7 | 6 | 3.2 | 89.2 | 26.8 | 56.8 | 1006.8 | 483.2 | 0.0 | 4.8 |
| 2023 | 07Mar2023 | 7 | 7 | 3.2 | 88.4 | 27.8 | 57.6 | 1006.8 | 488.9 | 0.0 | 5.0 |
| 2023 | 07Mar2023 | 7 | 8 | 4.6 | 86.5 | 28.0 | 56.2 | 1006.4 | 488.7 | 0.0 | 2.4 |
| 2023 | 07Mar2023 | 7 | 9 | 5.8 | 83.5 | 29.2 | 61.2 | 1006.4 | 571.2 | 0.0 | 5.4 |
| 2023 | 07Mar2023 | 7 | 10 | 6.2 | 54.3 | 29.6 | 52.6 | 1006.4 | 511.6 | 0.0 | 8.1 |
| 2023 | 07Mar2023 | 7 | 11 | 6.3 | 33.8 | 30.6 | 62.8 | 1006.2 | 412.2 | 0.0 | 9.4 |
| 2023 | 07Mar2023 | 7 | 12 | 4.8 | 24.9 | 30.8 | 62.4 | 1007.2 | 510.2 | 0.0 | 7.9 |
| 2023 | 07Mar2023 | 7 | 13 | 6.9 | 54.8 | 31.4 | 68.2 | 1007.6 | 571.2 | 0.0 | 8.9 |
| 2023 | 07Mar2023 | 7 | 14 | 6.4 | 52.6 | 32.8 | 63.8 | 1007.4 | 511.6 | 0.0 | 0.0 |
| 2023 | 07Mar2023 | 7 | 15 | 6.8 | 39.3 | 33.2 | 64.2 | 1008.2 | 412.2 | 0.0 | 7.4 |
| 2023 | 07Mar2023 | 7 | 16 | 3.2 | 56.8 | 32.6 | 65.0 | 1009.2 | 510.2 | 0.0 | 8.4 |
| 2023 | 07Mar2023 | 7 | 17 | 4.6 | 88.2 | 32.0 | 64.0 | 1008.8 | 571.2 | 0.0 | 4.6 |
| 2023 | 07Mar2023 | 7 | 18 | 3.8 | 64.8 | 31.2 | 62.3 | 1007.8 | 511.6 | 0.0 | 2.1 |
| 2023 | 07Mar2023 | 7 | 19 | 3.6 | 56.8 | 29.8 | 62.2 | 1011.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 07Mar2023 | 7 | 20 | 5.2 | 68.5 | 29.2 | 61.2 | 1012.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 07Mar2023 | 7 | 21 | 4.4 | 64.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 07Mar2023 | 7 | 22 | 4.3 | 68.4 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 07Mar2023 | 7 | 23 | 2.6 | 98.2 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 07Mar2023 | 7 | 24 | 2.4 | 88.4 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 08Mar2023 | 8 | 1 | 2.1 | 64.9 | 18.2 | 54.4 | 1012.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 08Mar2023 | 8 | 2 | 2.6 | 49.8 | 18.8 | 55.2 | 1013.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 08Mar2023 | 8 | 3 | 2.6 | 53.5 | 19.4 | 65.2 | 1016.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 08Mar2023 | 8 | 4 | 2.4 | 57.1 | 20.4 | 48.8 | 1017.4 | 0.0 | 0.0 | 7.9 |
| 2023 | 08Mar2023 | 8 | 5 | 1.9 | 55.1 | 21.8 | 49.2 | 1016.8 | 325.8 | 0.0 | 8.9 |
| 2023 | 08Mar2023 | 8 | 6 | 2.4 | 49.6 | 22.0 | 54.3 | 1016.9 | 459.3 | 0.0 | 0.0 |
| 2023 | 08Mar2023 | 8 | 7 | 2.4 | 43.2 | 22.4 | 62.1 | 1015.8 | 452.3 | 0.0 | 7.4 |
| 2023 | 08Mar2023 | 8 | 8 | 2.2 | 52.0 | 23.2 | 49.8 | 1017.2 | 524.2 | 0.0 | 8.4 |
| 2023 | 08Mar2023 | 8 | 9 | 3.4 | 82.7 | 24.6 | 52.0 | 1015.2 | 423.1 | 0.0 | 4.6 |
| 2023 | 08Mar2023 | 8 | 10 | 2.8 | 74.7 | 27.8 | 57.2 | 1014.8 | 580.2 | 0.0 | 2.8 |
| 2023 | 08Mar2023 | 8 | 11 | 2.4 | 67.7 | 28.2 | 60.2 | 1016.2 | 633.2 | 0.0 | 5.4 |
| 2023 | 08Mar2023 | 8 | 12 | 5.2 | 66.1 | 28.8 | 62.2 | 1014.8 | 654.3 | 0.0 | 4.9 |
| 2023 | 08Mar2023 | 8 | 13 | 6.0 | 40.7 | 29.2 | 63.3 | 1016.8 | 453.2 | 0.0 | 4.6 |
| 2023 | 08Mar2023 | 8 | 14 | 1.8 | 84.2 | 33.8 | 64.1 | 1017.8 | 488.5 | 0.0 | 2.8 |
| 2023 | 08Mar2023 | 8 | 15 | 3.8 | 124.2 | 33.2 | 64.3 | 1019.2 | 540.0 | 0.0 | 2.6 |
| 2023 | 08Mar2023 | 8 | 16 | 3.6 | 124.6 | 31.4 | 63.8 | 1014.2 | 623.3 | 0.0 | 2.0 |
| 2023 | 08Mar2023 | 8 | 17 | 5.2 | 88.4 | 30.2 | 60.2 | 1016.2 | 548.2 | 0.0 | 1.8 |
| 2023 | 08Mar2023 | 8 | 18 | 4.6 | 41.7 | 30.0 | 62.2 | 1014.8 | 0.0 | 0.0 | 1.6 |
| 2023 | 08Mar2023 | 8 | 19 | 4.3 | 49.8 | 29.8 | 61.2 | 1016.8 | 0.0 | 0.0 | 3.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 08Mar2023 | 8 | 20 | 2.6 | 62.6 | 28.6 | 61.2 | 1017.8 | 0.0 | 0.0 | 4.4 |
| 2023 | 08Mar2023 | 8 | 21 | 3.2 | 60.8 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 08Mar2023 | 8 | 22 | 2.1 | 87.0 | 26.5 | 57.2 | 1014.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 08Mar2023 | 8 | 23 | 2.8 | 116.6 | 25.3 | 53.2 | 1015.4 | 0.0 | 0.0 | 2.4 |
| 2023 | 08Mar2023 | 8 | 24 | 2.4 | 108.8 | 23.2 | 48.2 | 1016.5 | 0.0 | 0.0 | 5.4 |
| 2023 | 09Mar2023 | 9 | 1 | 5.2 | 102.0 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 09Mar2023 | 9 | 2 | 6.0 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 09Mar2023 | 9 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 7.9 |
| 2023 | 09Mar2023 | 9 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.9 |
| 2023 | 09Mar2023 | 9 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 452.2 | 0.0 | 0.0 |
| 2023 | 09Mar2023 | 9 | 6 | 5.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 521.3 | 0.0 | 7.4 |
| 2023 | 09Mar2023 | 9 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 482.6 | 0.0 | 8.4 |
| 2023 | 09Mar2023 | 9 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 423.1 | 0.0 | 4.6 |
| 2023 | 09Mar2023 | 9 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 560.2 | 0.0 | 2.8 |
| 2023 | 09Mar2023 | 9 | 10 | 3.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 09Mar2023 | 9 | 11 | 2.1 | 72.8 | 30.2 | 62.2 | 1016.5 | 654.3 | 0.0 | 4.9 |
| 2023 | 09Mar2023 | 9 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 09Mar2023 | 9 | 13 | 3.2 | 188.4 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 3.8 |
| 2023 | 09Mar2023 | 9 | 14 | 3.4 | 88.6 | 32.4 | 64.3 | 1019.8 | 652.2 | 0.0 | 2.2 |
| 2023 | 09Mar2023 | 9 | 15 | 4.4 | 87.6 | 31.4 | 63.8 | 1018.9 | 485.6 | 0.0 | 2.0 |
| 2023 | 09Mar2023 | 9 | 16 | 4.2 | 92.6 | 30.2 | 60.2 | 1021.2 | 542.2 | 0.0 | 2.6 |
| 2023 | 09Mar2023 | 9 | 17 | 3.6 | 110.2 | 30.0 | 62.2 | 1021.6 | 522.6 | 0.0 | 2.4 |
| 2023 | 09Mar2023 | 9 | 18 | 5.6 | 65.8 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 09Mar2023 | 9 | 19 | 6.5 | 86.7 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 09Mar2023 | 9 | 20 | 4.6 | 75.6 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 09Mar2023 | 9 | 21 | 3.2 | 99.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 09Mar2023 | 9 | 22 | 2.8 | 110.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 09Mar2023 | 9 | 23 | 2.6 | 65.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.8 |
| 2023 | 09Mar2023 | 9 | 24 | 5.6 | 86.7 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 10Mar2023 | 10 | 1 | 3.5 | 75.6 | 18.4 | 43.2 | 1014.8 | 0.0 | 0.0 | 5.4 |
| 2023 | 10Mar2023 | 10 | 2 | 5.3 | 67.7 | 18.8 | 46.4 | 1016.8 | 0.0 | 0.0 | 8.1 |
| 2023 | 10Mar2023 | 10 | 3 | 5.6 | 66.1 | 19.6 | 47.1 | 1017.8 | 0.0 | 0.0 | 9.4 |
| 2023 | 10Mar2023 | 10 | 4 | 5.2 | 40.7 | 22.4 | 48.5 | 1019.2 | 0.0 | 0.0 | 7.9 |
| 2023 | 10Mar2023 | 10 | 5 | 5.1 | 84.2 | 23.4 | 46.5 | 1019.8 | 0.0 | 0.0 | 8.9 |
| 2023 | 10Mar2023 | 10 | 6 | 4.9 | 124.2 | 26.8 | 56.8 | 1015.4 | 524.2 | 0.0 | 0.0 |
| 2023 | 10Mar2023 | 10 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1016.5 | 488.9 | 0.0 | 7.4 |
| 2023 | 10Mar2023 | 10 | 8 | 3.7 | 17.3 | 28.0 | 56.2 | 1018.9 | 488.7 | 0.0 | 8.4 |
| 2023 | 10Mar2023 | 10 | 9 | 3.1 | 41.7 | 29.2 | 61.2 | 1021.2 | 488.2 | 0.0 | 4.6 |
| 2023 | 10Mar2023 | 10 | 10 | 2.7 | 49.8 | 29.6 | 52.6 | 1019.8 | 524.2 | 0.0 | 6.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 10Mar2023 | 10 | 11 | 2.3 | 40.7 | 30.6 | 62.8 | 1018.9 | 488.9 | 0.0 | 7.2 |
| 2023 | 10Mar2023 | 10 | 12 | 2.0 | 84.2 | 30.8 | 62.4 | 1021.2 | 488.7 | 0.0 | 2.6 |
| 2023 | 10Mar2023 | 10 | 13 | 2.0 | 124.2 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 2.4 |
| 2023 | 10Mar2023 | 10 | 14 | 2.4 | 4.9 | 32.8 | 63.8 | 1021.8 | 524.2 | 0.0 | 2.8 |
| 2023 | 10Mar2023 | 10 | 15 | 2.6 | 17.3 | 33.2 | 64.2 | 1012.5 | 488.9 | 0.0 | 3.2 |
| 2023 | 10Mar2023 | 10 | 16 | 3.3 | 41.7 | 32.6 | 65.0 | 1019.2 | 488.7 | 0.0 | 4.2 |
| 2023 | 10Mar2023 | 10 | 17 | 4.1 | 49.8 | 32.0 | 64.0 | 1018.4 | 488.2 | 0.0 | 1.8 |
| 2023 | 10Mar2023 | 10 | 18 | 4.5 | 62.6 | 31.2 | 62.3 | 1018.6 | 511.6 | 0.0 | 2.4 |
| 2023 | 10Mar2023 | 10 | 19 | 5.6 | 60.8 | 29.8 | 62.2 | 1017.9 | 412.2 | 0.0 | 5.4 |
| 2023 | 10Mar2023 | 10 | 20 | 6.3 | 87.0 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 10Mar2023 | 10 | 21 | 6.6 | 116.6 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 10Mar2023 | 10 | 22 | 6.5 | 108.8 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 7.9 |
| 2023 | 10Mar2023 | 10 | 23 | 6.1 | 88.6 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 8.9 |
| 2023 | 10Mar2023 | 10 | 24 | 5.8 | 87.6 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 11Mar2023 | 11 | 1 | 5.2 | 92.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 7.4 |
| 2023 | 11Mar2023 | 11 | 2 | 2.1 | 110.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 8.4 |
| 2023 | 11Mar2023 | 11 | 3 | 2.6 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 11Mar2023 | 11 | 4 | 3.6 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 11Mar2023 | 11 | 5 | 2.4 | 65.8 | 22.0 | 54.3 | 1014.8 | 480.6 | 0.0 | 0.0 |
| 2023 | 11Mar2023 | 11 | 6 | 4.6 | 86.7 | 22.4 | 62.1 | 1016.8 | 633.2 | 0.0 | 2.8 |
| 2023 | 11Mar2023 | 11 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 568.4 | 0.0 | 2.0 |
| 2023 | 11Mar2023 | 11 | 8 | 3.8 | 99.2 | 24.6 | 52.0 | 1019.2 | 453.2 | 0.0 | 2.4 |
| 2023 | 11Mar2023 | 11 | 9 | 4.2 | 48.5 | 26.8 | 57.2 | 1019.8 | 488.5 | 0.0 | 5.4 |
| 2023 | 11Mar2023 | 11 | 10 | 4.6 | 140.6 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 8.1 |
| 2023 | 11Mar2023 | 11 | 11 | 3.6 | 72.8 | 30.2 | 62.2 | 1016.5 | 488.5 | 0.0 | 9.4 |
| 2023 | 11Mar2023 | 11 | 12 | 5.2 | 70.6 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 7.9 |
| 2023 | 11Mar2023 | 11 | 13 | 4.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 568.4 | 0.0 | 8.9 |
| 2023 | 11Mar2023 | 11 | 14 | 4.8 | 82.3 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 0.0 |
| 2023 | 11Mar2023 | 11 | 15 | 4.3 | 90.2 | 31.4 | 63.8 | 1018.4 | 488.5 | 0.0 | 7.4 |
| 2023 | 11Mar2023 | 11 | 16 | 3.2 | 188.4 | 30.2 | 60.2 | 1018.6 | 0.0 | 0.0 | 8.4 |
| 2023 | 11Mar2023 | 11 | 17 | 3.4 | 88.6 | 30.0 | 62.2 | 1017.9 | 0.0 | 0.0 | 4.6 |
| 2023 | 11Mar2023 | 11 | 18 | 4.4 | 87.6 | 29.8 | 61.2 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 11Mar2023 | 11 | 19 | 4.2 | 92.6 | 28.6 | 61.2 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 11Mar2023 | 11 | 20 | 3.6 | 110.2 | 27.6 | 67.0 | 1017.2 | 0.0 | 0.0 | 4.4 |
| 2023 | 11Mar2023 | 11 | 21 | 5.6 | 65.8 | 26.5 | 57.2 | 1015.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 11Mar2023 | 11 | 22 | 6.5 | 86.7 | 25.3 | 53.2 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 11Mar2023 | 11 | 23 | 4.6 | 75.6 | 23.2 | 48.2 | 1016.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 11Mar2023 | 11 | 24 | 3.2 | 99.2 | 18.4 | 42.4 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 12Mar2023 | 12 | 1 | 2.8 | 110.2 | 18.6 | 54.4 | 1016.8 | 0.0 | 0.0 | 6.4 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 12Mar2023 | 12 | 2 | 2.6 | 65.8 | 18.8 | 55.2 | 1017.8 | 0.0 | 0.0 | 8.1 |
| 2023 | 12Mar2023 | 12 | 3 | 5.6 | 86.7 | 19.4 | 65.2 | 1019.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 12Mar2023 | 12 | 4 | 3.5 | 75.6 | 20.4 | 48.8 | 1019.8 | 0.0 | 0.0 | 7.6 |
| 2023 | 12Mar2023 | 12 | 5 | 6.4 | 62.6 | 21.8 | 49.2 | 1015.4 | 488.3 | 0.0 | 8.8 |
| 2023 | 12Mar2023 | 12 | 6 | 6.5 | 60.8 | 22.0 | 54.3 | 1016.5 | 682.6 | 0.0 | 7.2 |
| 2023 | 12Mar2023 | 12 | 7 | 5.5 | 87.0 | 22.4 | 62.1 | 1018.9 | 633.2 | 0.0 | 4.8 |
| 2023 | 12Mar2023 | 12 | 8 | 4.6 | 116.6 | 23.2 | 49.8 | 1021.2 | 652.3 | 0.0 | 6.5 |
| 2023 | 12Mar2023 | 12 | 9 | 4.3 | 108.8 | 24.6 | 52.0 | 1019.2 | 453.2 | 0.0 | 5.2 |
| 2023 | 12Mar2023 | 12 | 10 | 4.8 | 88.6 | 26.8 | 57.2 | 1019.8 | 682.6 | 0.0 | 2.8 |
| 2023 | 12Mar2023 | 12 | 11 | 6.5 | 87.6 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 6.4 |
| 2023 | 12Mar2023 | 12 | 12 | 4.6 | 92.6 | 30.2 | 62.2 | 1016.5 | 682.6 | 0.0 | 4.9 |
| 2023 | 12Mar2023 | 12 | 13 | 5.8 | 110.2 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 12Mar2023 | 12 | 14 | 6.2 | 92.6 | 32.2 | 64.1 | 1021.2 | 652.3 | 0.0 | 3.2 |
| 2023 | 12Mar2023 | 12 | 15 | 6.3 | 110.2 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.1 |
| 2023 | 12Mar2023 | 12 | 16 | 4.8 | 65.8 | 31.4 | 63.8 | 1018.9 | 452.2 | 0.0 | 2.0 |
| 2023 | 12Mar2023 | 12 | 17 | 6.9 | 66.1 | 30.2 | 60.2 | 1021.2 | 463.1 | 0.0 | 2.2 |
| 2023 | 12Mar2023 | 12 | 18 | 6.4 | 68.4 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 1.4 |
| 2023 | 12Mar2023 | 12 | 19 | 6.8 | 49.8 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 12Mar2023 | 12 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.4 |
| 2023 | 12Mar2023 | 12 | 21 | 5.6 | 66.4 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 12Mar2023 | 12 | 22 | 6.2 | 124.5 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.8 |
| 2023 | 12Mar2023 | 12 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 12Mar2023 | 12 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 13Mar2023 | 13 | 1 | 4.8 | 130.2 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 6.4 |
| 2023 | 13Mar2023 | 13 | 2 | 5.8 | 222.5 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 13Mar2023 | 13 | 3 | 6.2 | 125.8 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 9.4 |
| 2023 | 13Mar2023 | 13 | 4 | 6.2 | 164.8 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 7.6 |
| 2023 | 13Mar2023 | 13 | 5 | 6.6 | 188.6 | 22.0 | 54.3 | 1014.8 | 386.5 | 0.0 | 8.8 |
| 2023 | 13Mar2023 | 13 | 6 | 5.6 | 232.6 | 22.4 | 62.1 | 1016.8 | 458.2 | 0.0 | 7.2 |
| 2023 | 13Mar2023 | 13 | 7 | 6.1 | 245.2 | 23.2 | 49.8 | 1017.8 | 584.3 | 0.0 | 7.8 |
| 2023 | 13Mar2023 | 13 | 8 | 4.8 | 215.1 | 24.6 | 52.0 | 1019.2 | 654.2 | 0.0 | 3.6 |
| 2023 | 13Mar2023 | 13 | 9 | 3.5 | 258.2 | 26.8 | 57.2 | 1019.8 | 560.2 | 0.0 | 2.8 |
| 2023 | 13Mar2023 | 13 | 10 | 2.2 | 254.6 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 13Mar2023 | 13 | 11 | 3.2 | 88.4 | 30.2 | 62.2 | 1019.2 | 562.2 | 0.0 | 4.8 |
| 2023 | 13Mar2023 | 13 | 12 | 4.2 | 158.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 13Mar2023 | 13 | 13 | 2.5 | 188.7 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 3.6 |
| 2023 | 13Mar2023 | 13 | 14 | 3.0 | 166.5 | 32.4 | 64.3 | 1019.8 | 439.2 | 0.0 | 2.2 |
| 2023 | 13Mar2023 | 13 | 15 | 4.2 | 177.5 | 31.4 | 63.8 | 1018.9 | 453.2 | 0.0 | 2.0 |
| 2023 | 13Mar2023 | 13 | 16 | 1.6 | 152.5 | 30.2 | 60.2 | 1021.2 | 457.8 | 0.0 | 2.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 13Mar2023 | 13 | 17 | 4.2 | 146.8 | 30.0 | 62.2 | 1021.6 | 574.6 | 0.0 | 1.4 |
| 2023 | 13Mar2023 | 13 | 18 | 2.0 | 158.6 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 13Mar2023 | 13 | 19 | 4.5 | 165.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 13Mar2023 | 13 | 20 | 4.1 | 205.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 13Mar2023 | 13 | 21 | 3.2 | 201.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 13Mar2023 | 13 | 22 | 3.2 | 128.9 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 13Mar2023 | 13 | 23 | 4.8 | 188.9 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.6 |
| 2023 | 13Mar2023 | 13 | 24 | 6.2 | 202.6 | 18.4 | 42.4 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 14Mar2023 | 14 | 1 | 6.2 | 232.6 | 18.6 | 55.2 | 1016.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 14Mar2023 | 14 | 2 | 6.3 | 188.2 | 20.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 9.4 |
| 2023 | 14Mar2023 | 14 | 3 | 5.6 | 254.3 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 6.8 |
| 2023 | 14Mar2023 | 14 | 4 | 6.1 | 258.2 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 14Mar2023 | 14 | 5 | 4.8 | 254.6 | 22.0 | 54.3 | 1020.5 | 654.2 | 0.0 | 4.2 |
| 2023 | 14Mar2023 | 14 | 6 | 3.5 | 188.2 | 22.4 | 62.1 | 1016.8 | 560.2 | 0.0 | 2.6 |
| 2023 | 14Mar2023 | 14 | 7 | 4.6 | 158.6 | 24.0 | 49.8 | 1017.8 | 633.2 | 0.0 | 7.8 |
| 2023 | 14Mar2023 | 14 | 8 | 4.8 | 168.4 | 24.6 | 52.0 | 1019.2 | 562.2 | 0.0 | 4.3 |
| 2023 | 14Mar2023 | 14 | 9 | 3.5 | 166.5 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 2.8 |
| 2023 | 14Mar2023 | 14 | 10 | 4.6 | 177.5 | 28.4 | 60.2 | 1015.4 | 488.5 | 0.0 | 5.8 |
| 2023 | 14Mar2023 | 14 | 11 | 3.2 | 188.4 | 30.2 | 62.2 | 1019.2 | **562.2** | 0.0 | 4.8 |
| 2023 | 14Mar2023 | 14 | 12 | 3.4 | 88.6 | 31.2 | 63.3 | 1018.9 | **453.2** | 0.0 | 4.6 |
| 2023 | 14Mar2023 | 14 | 13 | 4.4 | 87.6 | 32.2 | 64.1 | 1021.2 | 654.2 | 0.0 | 2.8 |
| 2023 | 14Mar2023 | 14 | 14 | 4.2 | 92.6 | 32.4 | 64.3 | 1019.8 | 560.2 | 0.0 | 2.2 |
| 2023 | 14Mar2023 | 14 | 15 | 3.6 | 110.2 | 31.4 | 63.8 | 1018.9 | 633.2 | 0.0 | 2.0 |
| 2023 | 14Mar2023 | 14 | 16 | 5.6 | 65.8 | 30.2 | 60.2 | 1021.2 | 562.2 | 0.0 | 2.2 |
| 2023 | 14Mar2023 | 14 | 17 | 6.5 | 86.7 | 30.0 | 62.2 | 1021.6 | 453.2 | 0.0 | 1.4 |
| 2023 | 14Mar2023 | 14 | 18 | 4.6 | 75.6 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 14Mar2023 | 14 | 19 | 3.2 | 99.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.4 |
| 2023 | 14Mar2023 | 14 | 20 | 2.8 | 110.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 14Mar2023 | 14 | 21 | 2.6 | 65.8 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 14Mar2023 | 14 | 22 | 5.6 | 86.7 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 14Mar2023 | 14 | 23 | 3.5 | 75.6 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 14Mar2023 | 14 | 24 | 2.6 | 188.6 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 4.8 |
| 2023 | 15Mar2023 | 15 | 1 | 4.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 4.4 |
| 2023 | 15Mar2023 | 15 | 2 | 5.2 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 15Mar2023 | 15 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 15Mar2023 | 15 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 15Mar2023 | 15 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 252.4 | 0.0 | 0.0 |
| 2023 | 15Mar2023 | 15 | 6 | 3.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 423.1 | 0.0 | 6.4 |
| 2023 | 15Mar2023 | 15 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 560.2 | 0.0 | 8.1 |
| 2023 | 15Mar2023 | 15 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 633.2 | 0.0 | 9.4 |
| 2023 | 15Mar2023 | 15 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 654.3 | 0.0 | 7.6 |
| 2023 | 15Mar2023 | 15 | 10 | 3.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 8.8 |
| 2023 | 15Mar2023 | 15 | 11 | 4.4 | 72.8 | 30.2 | 62.2 | 1016.5 | 560.2 | 0.0 | 7.2 |
| 2023 | 15Mar2023 | 15 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 15Mar2023 | 15 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 654.3 | 0.0 | 3.2 |
| 2023 | 15Mar2023 | 15 | 14 | 2.6 | 82.3 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.2 |
| 2023 | 15Mar2023 | 15 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 488.5 | 0.0 | 2.0 |
| 2023 | 15Mar2023 | 15 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 288.4 | 0.0 | 4.8 |
| 2023 | 15Mar2023 | 15 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 488.5 | 0.0 | 4.4 |
| 2023 | 15Mar2023 | 15 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 288.4 | 0.0 | 3.2 |
| 2023 | 15Mar2023 | 15 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 15Mar2023 | 15 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 15Mar2023 | 15 | 21 | 5.0 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 15Mar2023 | 15 | 22 | 3.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 6.4 |
| 2023 | 15Mar2023 | 15 | 23 | 3.1 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 8.1 |
| 2023 | 15Mar2023 | 15 | 24 | 2.7 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 9.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No. W(M)/23-24/0458 Date: June 6 , 2023

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bhadur Sasti Road , Kannagar , Hooghly , West Bengal - 712235.

: Site Address : Mouja- Karakpur, Block-Dantan-1 .

**Description of Sample** : Weather Monitoring

**Sampling Locaton** : M-2

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 16-03-2023 | 1 | 1 | 3.2 | 89.2 | 18.2 | 39.2 | 1006.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 16-03-2023 | 1 | 2 | 5.2 | 88.4 | 18.6 | 39.6 | 1003.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 16-03-2023 | 1 | 3 | 4.6 | 86.5 | 19.2 | 43.2 | 1006.8 | 0.0 | 0.0 | 7.5 |
| 2023 | 16-03-2023 | 1 | 4 | 5.2 | 83.5 | 20.0 | 47.2 | 1006.4 | 0.0 | 0.0 | 4.8 |
| 2023 | 16-03-2023 | 1 | 5 | 4.8 | 54.3 | 21.8 | 49.2 | 1007.8 | 352.0 | 0.0 | 6.5 |
| 2023 | 16-03-2023 | 1 | 6 | 4.8 | 33.8 | 22.0 | 54.3 | 1006.8 | 452.0 | 0.0 | 7.2 |
| 2023 | 16-03-2023 | 1 | 7 | 5.1 | 24.9 | 22.4 | 62.1 | 1006.8 | 658.0 | 0.0 | 4.5 |
| 2023 | 16-03-2023 | 1 | 8 | 3.3 | 54.8 | 23.2 | 49.8 | 1008.2 | 452.2 | 0.0 | 5.2 |
| 2023 | 16-03-2023 | 1 | 9 | 3.7 | 52.6 | 24.6 | 52.0 | 1006.3 | 653.1 | 0.0 | 6.3 |
| 2023 | 16-03-2023 | 1 | 10 | 3.2 | 39.3 | 26.8 | 57.2 | 1007.2 | 456.8 | 0.0 | 6.7 |
| 2023 | 16-03-2023 | 1 | 11 | 3.2 | 56.8 | 28.4 | 60.2 | 1006.3 | 633.2 | 0.0 | 6.8 |
| 2023 | 16-03-2023 | 1 | 12 | 4.6 | 88.2 | 30.2 | 62.2 | 1006.8 | 654.3 | 0.0 | 4.9 |
| 2023 | 16-03-2023 | 1 | 13 | 5.8 | 74.7 | 31.2 | 63.3 | 1004.6 | 453.2 | 0.0 | 4.6 |
| 2023 | 16-03-2023 | 1 | 14 | 6.2 | 68.4 | 32.2 | 64.1 | 1006.9 | 488.5 | 0.0 | 2.8 |
| 2023 | 16-03-2023 | 1 | 15 | 6.3 | 73.7 | 32.4 | 64.3 | 1006.8 | 288.4 | 0.0 | 2.1 |
| 2023 | 16-03-2023 | 1 | 16 | 4.8 | 65.9 | 31.4 | 63.8 | 1003.2 | 355.2 | 0.0 | 2.0 |
| 2023 | 16-03-2023 | 1 | 17 | 6.9 | 66.1 | 30.2 | 60.2 | 1006.8 | 458.7 | 0.0 | 3.4 |
| 2023 | 16-03-2023 | 1 | 18 | 6.4 | 68.4 | 30.0 | 62.2 | 1006.4 | 0.0 | 0.0 | 1.4 |
| 2023 | 16-03-2023 | 1 | 19 | 6.8 | 49.8 | 29.8 | 61.2 | 1007.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 16-03-2023 | 1 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1006.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 16-03-2023 | 1 | 21 | 5.6 | 66.4 | 27.6 | 67.0 | 1006.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 16-03-2023 | 1 | 22 | 6.2 | 88.9 | 26.5 | 57.2 | 1008.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 16-03-2023 | 1 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1006.3 | 0.0 | 0.0 | 2.6 |
| 2023 | 16-03-2023 | 1 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1007.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 17-03-2023 | 2 | 1 | 4.8 | 66.2 | 18.4 | 43.2 | 1005.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 17-03-2023 | 2 | 2 | 3.5 | 62.2 | 18.8 | 46.4 | 1005.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 17-03-2023 | 2 | 3 | 8.2 | 54.1 | 19.6 | 47.1 | 1006.4 | 0.0 | 0.0 | 1.8 |
| 2023 | 17-03-2023 | 2 | 4 | 5.2 | 48.6 | 22.4 | 48.5 | 1006.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 17-03-2023 | 2 | 5 | 6.0 | 47.0 | 23.4 | 46.5 | 1006.4 | 458.2 | 0.0 | 3.6 |
| 2023 | 17-03-2023 | 2 | 6 | 4.8 | 73.7 | 26.8 | 56.8 | 1006.8 | 524.2 | 0.0 | 4.8 |
| 2023 | 17-03-2023 | 2 | 7 | 3.8 | 65.9 | 27.8 | 57.6 | 1006.8 | 488.9 | 0.0 | 5.0 |
| 2023 | 17-03-2023 | 2 | 8 | 3.6 | 66.1 | 28.0 | 56.2 | 1006.4 | 488.7 | 0.0 | 5.4 |
| 2023 | 17-03-2023 | 2 | 9 | 5.2 | 68.4 | 29.2 | 61.2 | 1006.4 | 571.2 | 0.0 | 4.3 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 17-03-2023 | 2 | 10 | 4.4 | 49.8 | 29.6 | 52.6 | 1006.4 | 511.6 | 0.0 | 6.1 |
| 2023 | 17-03-2023 | 2 | 11 | 4.3 | 50.9 | 30.6 | 62.8 | 1006.2 | 412.2 | 0.0 | 7.2 |
| 2023 | 17-03-2023 | 2 | 12 | 2.6 | 66.4 | 30.8 | 62.4 | 1007.2 | 510.2 | 0.0 | 2.6 |
| 2023 | 17-03-2023 | 2 | 13 | 3.5 | 88.6 | 31.4 | 68.2 | 1007.6 | 571.2 | 0.0 | 2.4 |
| 2023 | 17-03-2023 | 2 | 14 | 8.2 | 78.5 | 32.8 | 63.8 | 1007.4 | 511.6 | 0.0 | 2.0 |
| 2023 | 17-03-2023 | 2 | 15 | 5.2 | 76.4 | 33.2 | 64.2 | 1008.2 | 571.2 | 0.0 | 3.2 |
| 2023 | 17-03-2023 | 2 | 16 | 6.0 | 72.6 | 32.6 | 65.0 | 1009.2 | 511.6 | 0.0 | 2.2 |
| 2023 | 17-03-2023 | 2 | 17 | 4.8 | 68.2 | 32.0 | 64.0 | 1008.8 | 412.2 | 0.0 | 1.8 |
| 2023 | 17-03-2023 | 2 | 18 | 3.8 | 64.8 | 31.2 | 62.3 | 1007.8 | 0.0 | 0.0 | 2.1 |
| 2023 | 17-03-2023 | 2 | 19 | 3.6 | 56.8 | 29.8 | 62.2 | 1011.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 17-03-2023 | 2 | 20 | 5.2 | 68.5 | 29.2 | 61.2 | 1012.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 17-03-2023 | 2 | 21 | 4.4 | 64.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 17-03-2023 | 2 | 22 | 4.3 | 68.4 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 17-03-2023 | 2 | 23 | 2.6 | 98.2 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 17-03-2023 | 2 | 24 | 2.4 | 88.4 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 18-03-2023 | 3 | 1 | 2.1 | 64.9 | 18.2 | 54.4 | 1012.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 18-03-2023 | 3 | 2 | 2.6 | 49.8 | 18.8 | 55.2 | 1013.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 18-03-2023 | 3 | 3 | 2.6 | 53.5 | 19.4 | 65.2 | 1016.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 18-03-2023 | 3 | 4 | 2.4 | 57.1 | 20.4 | 48.8 | 1017.4 | 0.0 | 0.0 | 7.9 |
| 2023 | 18-03-2023 | 3 | 5 | 1.9 | 55.1 | 21.8 | 49.2 | 1016.8 | 325.8 | 0.0 | 8.9 |
| 2023 | 18-03-2023 | 3 | 6 | 2.4 | 49.6 | 22.0 | 54.3 | 1016.9 | 459.3 | 0.0 | 0.0 |
| 2023 | 18-03-2023 | 3 | 7 | 2.4 | 43.2 | 22.4 | 62.1 | 1015.8 | 452.3 | 0.0 | 7.4 |
| 2023 | 18-03-2023 | 3 | 8 | 2.2 | 52.0 | 23.2 | 49.8 | 1017.2 | 524.2 | 0.0 | 8.4 |
| 2023 | 18-03-2023 | 3 | 9 | 3.4 | 82.7 | 24.6 | 52.0 | 1015.2 | 423.1 | 0.0 | 4.6 |
| 2023 | 18-03-2023 | 3 | 10 | 2.8 | 74.7 | 27.8 | 57.2 | 1014.8 | 580.2 | 0.0 | 2.8 |
| 2023 | 18-03-2023 | 3 | 11 | 2.4 | 67.7 | 28.2 | 60.2 | 1016.2 | 633.2 | 0.0 | 5.4 |
| 2023 | 18-03-2023 | 3 | 12 | 5.2 | 66.1 | 28.8 | 62.2 | 1014.8 | 654.3 | 0.0 | 4.9 |
| 2023 | 18-03-2023 | 3 | 13 | 6.0 | 40.7 | 29.2 | 63.3 | 1016.8 | 453.2 | 0.0 | 4.6 |
| 2023 | 18-03-2023 | 3 | 14 | 1.8 | 84.2 | 33.8 | 64.1 | 1017.8 | 488.5 | 0.0 | 2.8 |
| 2023 | 18-03-2023 | 3 | 15 | 3.8 | 124.2 | 33.2 | 64.3 | 1019.2 | 540.0 | 0.0 | 2.6 |
| 2023 | 18-03-2023 | 3 | 16 | 3.6 | 124.6 | 31.4 | 63.8 | 1014.2 | 623.3 | 0.0 | 2.0 |
| 2023 | 18-03-2023 | 3 | 17 | 5.2 | 88.4 | 30.2 | 60.2 | 1016.2 | 548.2 | 0.0 | 1.8 |
| 2023 | 18-03-2023 | 3 | 18 | 4.6 | 41.7 | 30.0 | 62.2 | 1014.8 | 0.0 | 0.0 | 1.6 |
| 2023 | 18-03-2023 | 3 | 19 | 4.3 | 49.8 | 29.8 | 61.2 | 1016.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 18-03-2023 | 3 | 20 | 2.6 | 62.6 | 28.6 | 61.2 | 1017.8 | 0.0 | 0.0 | 4.4 |
| 2023 | 18-03-2023 | 3 | 21 | 3.2 | 60.8 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 18-03-2023 | 3 | 22 | 2.1 | 87.0 | 26.5 | 57.2 | 1014.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 18-03-2023 | 3 | 23 | 2.8 | 116.6 | 25.3 | 53.2 | 1015.4 | 0.0 | 0.0 | 2.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 18-03-2023 | 3 | 24 | 2.4 | 108.8 | 23.2 | 48.2 | 1016.5 | 0.0 | 0.0 | 2.6 |
| 2023 | 19-03-2023 | 4 | 1 | 5.2 | 102.0 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 19-03-2023 | 4 | 2 | 6.0 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 19-03-2023 | 4 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 19-03-2023 | 4 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 19-03-2023 | 4 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 452.2 | 0.0 | 6.4 |
| 2023 | 19-03-2023 | 4 | 6 | 5.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 521.3 | 0.0 | 7.2 |
| 2023 | 19-03-2023 | 4 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 482.6 | 0.0 | 8.4 |
| 2023 | 19-03-2023 | 4 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 423.1 | 0.0 | 5.6 |
| 2023 | 19-03-2023 | 4 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 560.2 | 0.0 | 2.8 |
| 2023 | 19-03-2023 | 4 | 10 | 3.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 19-03-2023 | 4 | 11 | 2.1 | 72.8 | 30.2 | 62.2 | 1016.5 | 654.3 | 0.0 | 4.9 |
| 2023 | 19-03-2023 | 4 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 19-03-2023 | 4 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 3.8 |
| 2023 | 19-03-2023 | 4 | 14 | 2.4 | 82.3 | 32.4 | 64.3 | 1019.8 | 652.2 | 0.0 | 2.2 |
| 2023 | 19-03-2023 | 4 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 485.6 | 0.0 | 2.0 |
| 2023 | 19-03-2023 | 4 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 542.2 | 0.0 | 2.6 |
| 2023 | 19-03-2023 | 4 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 522.6 | 0.0 | 2.4 |
| 2023 | 19-03-2023 | 4 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 19-03-2023 | 4 | 19 | 4.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 19-03-2023 | 4 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 19-03-2023 | 4 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 19-03-2023 | 4 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 19-03-2023 | 4 | 23 | 5.0 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.8 |
| 2023 | 19-03-2023 | 4 | 24 | 4.8 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 20-03-2023 | 5 | 1 | 3.8 | 74.7 | 18.4 | 43.2 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 20-03-2023 | 5 | 2 | 5.3 | 67.7 | 18.8 | 46.4 | 1016.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 20-03-2023 | 5 | 3 | 5.6 | 66.1 | 19.6 | 47.1 | 1017.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 20-03-2023 | 5 | 4 | 5.2 | 40.7 | 22.4 | 48.5 | 1019.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 20-03-2023 | 5 | 5 | 5.1 | 84.2 | 23.4 | 46.5 | 1019.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 20-03-2023 | 5 | 6 | 4.9 | 124.2 | 26.8 | 56.8 | 1015.4 | 524.2 | 0.0 | 5.2 |
| 2023 | 20-03-2023 | 5 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1016.5 | 488.9 | 0.0 | 5.0 |
| 2023 | 20-03-2023 | 5 | 8 | 3.7 | 17.3 | 28.0 | 56.2 | 1018.9 | 488.7 | 0.0 | 5.4 |
| 2023 | 20-03-2023 | 5 | 9 | 3.1 | 41.7 | 29.2 | 61.2 | 1021.2 | 488.2 | 0.0 | 4.3 |
| 2023 | 20-03-2023 | 5 | 10 | 2.7 | 49.8 | 29.6 | 52.6 | 1019.8 | 524.2 | 0.0 | 6.2 |
| 2023 | 20-03-2023 | 5 | 11 | 2.3 | 40.7 | 30.6 | 62.8 | 1018.9 | 488.9 | 0.0 | 7.2 |
| 2023 | 20-03-2023 | 5 | 12 | 2.0 | 84.2 | 30.8 | 62.4 | 1021.2 | 488.7 | 0.0 | 2.6 |
| 2023 | 20-03-2023 | 5 | 13 | 2.0 | 124.2 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 2.4 |
| 2023 | 20-03-2023 | 5 | 14 | 2.4 | 4.9 | 32.8 | 63.8 | 1021.8 | 524.2 | 0.0 | 2.8 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 20-03-2023 | 5 | 15 | 2.6 | 17.3 | 33.2 | 64.2 | 1012.5 | 488.9 | 0.0 | 3.2 |
| 2023 | 20-03-2023 | 5 | 16 | 3.3 | 41.7 | 32.6 | 65.0 | 1019.2 | 488.7 | 0.0 | 4.2 |
| 2023 | 20-03-2023 | 5 | 17 | 4.1 | 49.8 | 32.0 | 64.0 | 1018.4 | 488.2 | 0.0 | 1.8 |
| 2023 | 20-03-2023 | 5 | 18 | 4.5 | 62.6 | 31.2 | 62.3 | 1018.6 | 511.6 | 0.0 | 2.2 |
| 2023 | 20-03-2023 | 5 | 19 | 5.6 | 60.8 | 29.8 | 62.2 | 1017.9 | 412.2 | 0.0 | 0.0 |
| 2023 | 20-03-2023 | 5 | 20 | 6.3 | 87.0 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 20-03-2023 | 5 | 21 | 6.6 | 116.6 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 20-03-2023 | 5 | 22 | 6.5 | 108.8 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 20-03-2023 | 5 | 23 | 6.1 | 88.6 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 20-03-2023 | 5 | 24 | 5.8 | 87.6 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 21-03-2023 | 6 | 1 | 5.2 | 92.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 21-03-2023 | 6 | 2 | 2.1 | 110.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 5.8 |
| 2023 | 21-03-2023 | 6 | 3 | 2.6 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 21-03-2023 | 6 | 4 | 3.6 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 21-03-2023 | 6 | 5 | 2.4 | 65.8 | 22.0 | 54.3 | 1014.8 | 480.6 | 0.0 | 0.0 |
| 2023 | 21-03-2023 | 6 | 6 | 4.6 | 86.7 | 22.4 | 62.1 | 1016.8 | 633.2 | 0.0 | 2.8 |
| 2023 | 21-03-2023 | 6 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 568.4 | 0.0 | 2.0 |
| 2023 | 21-03-2023 | 6 | 8 | 3.8 | 99.2 | 24.6 | 52.0 | 1019.2 | 453.2 | 0.0 | 1.8 |
| 2023 | 21-03-2023 | 6 | 9 | 4.2 | 48.5 | 26.8 | 57.2 | 1019.8 | 488.5 | 0.0 | 3.2 |
| 2023 | 21-03-2023 | 6 | 10 | 4.6 | 140.6 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 21-03-2023 | 6 | 11 | 3.6 | 72.8 | 30.2 | 62.2 | 1016.5 | 488.5 | 0.0 | 4.6 |
| 2023 | 21-03-2023 | 6 | 12 | 5.2 | 70.6 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 21-03-2023 | 6 | 13 | 4.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 568.4 | 0.0 | 0.0 |
| 2023 | 21-03-2023 | 6 | 14 | 4.8 | 82.3 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.8 |
| 2023 | 21-03-2023 | 6 | 15 | 4.3 | 90.2 | 31.4 | 63.8 | 1018.4 | 488.5 | 0.0 | 2.0 |
| 2023 | 21-03-2023 | 6 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1018.6 | 0.0 | 0.0 | 1.8 |
| 2023 | 21-03-2023 | 6 | 17 | 6.1 | 92.6 | 30.0 | 62.2 | 1017.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 21-03-2023 | 6 | 18 | 6.3 | 110.2 | 29.8 | 61.2 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 21-03-2023 | 6 | 19 | 6.4 | 65.8 | 28.6 | 61.2 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 21-03-2023 | 6 | 20 | 6.5 | 86.7 | 27.6 | 67.0 | 1017.2 | 0.0 | 0.0 | 4.4 |
| 2023 | 21-03-2023 | 6 | 21 | 5.5 | 75.6 | 26.5 | 57.2 | 1015.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 21-03-2023 | 6 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 21-03-2023 | 6 | 23 | 4.3 | 120.6 | 23.2 | 48.2 | 1016.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 21-03-2023 | 6 | 24 | 4.8 | 124.2 | 18.4 | 42.4 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 22-03-2023 | 7 | 1 | 6.5 | 4.9 | 18.6 | 54.4 | 1016.8 | 0.0 | 0.0 | 6.4 |
| 2023 | 22-03-2023 | 7 | 2 | 4.6 | 17.3 | 18.8 | 55.2 | 1017.8 | 0.0 | 0.0 | 8.1 |
| 2023 | 22-03-2023 | 7 | 3 | 6.1 | 41.7 | 19.4 | 65.2 | 1019.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 22-03-2023 | 7 | 4 | 6.3 | 49.8 | 20.4 | 48.8 | 1019.8 | 0.0 | 0.0 | 7.6 |
| 2023 | 22-03-2023 | 7 | 5 | 6.4 | 62.6 | 21.8 | 49.2 | 1015.4 | 488.3 | 0.0 | 8.8 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 22-03-2023 | 7 | 6 | 6.5 | 60.8 | 22.0 | 54.3 | 1016.5 | 682.6 | 0.0 | 7.2 |
| 2023 | 22-03-2023 | 7 | 7 | 5.5 | 87.0 | 22.4 | 62.1 | 1018.9 | 633.2 | 0.0 | 4.8 |
| 2023 | 22-03-2023 | 7 | 8 | 4.6 | 116.6 | 23.2 | 49.8 | 1021.2 | 652.3 | 0.0 | 6.5 |
| 2023 | 22-03-2023 | 7 | 9 | 4.3 | 108.8 | 24.6 | 52.0 | 1019.2 | 453.2 | 0.0 | 5.2 |
| 2023 | 22-03-2023 | 7 | 10 | 4.8 | 88.6 | 26.8 | 57.2 | 1019.8 | 682.6 | 0.0 | 2.8 |
| 2023 | 22-03-2023 | 7 | 11 | 6.5 | 87.6 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 6.4 |
| 2023 | 22-03-2023 | 7 | 12 | 4.6 | 92.6 | 30.2 | 62.2 | 1016.5 | 682.6 | 0.0 | 4.9 |
| 2023 | 22-03-2023 | 7 | 13 | 5.8 | 110.2 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 22-03-2023 | 7 | 14 | 6.2 | 92.6 | 32.2 | 64.1 | 1021.2 | 652.3 | 0.0 | 3.2 |
| 2023 | 22-03-2023 | 7 | 15 | 6.3 | 110.2 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.1 |
| 2023 | 22-03-2023 | 7 | 16 | 4.8 | 65.8 | 31.4 | 63.8 | 1018.9 | 452.2 | 0.0 | 2.0 |
| 2023 | 22-03-2023 | 7 | 17 | 6.9 | 66.1 | 30.2 | 60.2 | 1021.2 | 463.1 | 0.0 | 2.2 |
| 2023 | 22-03-2023 | 7 | 18 | 6.4 | 68.4 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 1.4 |
| 2023 | 22-03-2023 | 7 | 19 | 6.8 | 49.8 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 22-03-2023 | 7 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 5.2 |
| 2023 | 22-03-2023 | 7 | 21 | 5.6 | 66.4 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 22-03-2023 | 7 | 22 | 6.2 | 124.5 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 22-03-2023 | 7 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 22-03-2023 | 7 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 1 | 4.8 | 130.2 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 23-03-2023 | 8 | 2 | 5.8 | 222.5 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 23-03-2023 | 8 | 3 | 6.2 | 125.8 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 23-03-2023 | 8 | 4 | 6.2 | 164.8 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 23-03-2023 | 8 | 5 | 6.6 | 188.6 | 22.0 | 54.3 | 1014.8 | 386.5 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 6 | 5.6 | 232.6 | 22.4 | 62.1 | 1016.8 | 458.2 | 0.0 | 0.0 |
| 2023 | 23-03-2023 | 8 | 7 | 6.1 | 245.2 | 23.2 | 49.8 | 1017.8 | 584.3 | 0.0 | 7.8 |
| 2023 | 23-03-2023 | 8 | 8 | 4.8 | 215.1 | 24.6 | 52.0 | 1019.2 | 654.2 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 9 | 3.5 | 258.2 | 26.8 | 57.2 | 1019.8 | 560.2 | 0.0 | 2.8 |
| 2023 | 23-03-2023 | 8 | 10 | 2.2 | 254.6 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 23-03-2023 | 8 | 11 | 3.2 | 88.4 | 30.2 | 62.2 | 1019.2 | 562.2 | 0.0 | 4.8 |
| 2023 | 23-03-2023 | 8 | 12 | 4.2 | 158.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 23-03-2023 | 8 | 13 | 2.5 | 188.7 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 14 | 3.0 | 166.5 | 32.4 | 64.3 | 1019.8 | 439.2 | 0.0 | 2.2 |
| 2023 | 23-03-2023 | 8 | 15 | 4.2 | 177.5 | 31.4 | 63.8 | 1018.9 | 453.2 | 0.0 | 2.0 |
| 2023 | 23-03-2023 | 8 | 16 | 1.6 | 152.5 | 30.2 | 60.2 | 1021.2 | 457.8 | 0.0 | 2.2 |
| 2023 | 23-03-2023 | 8 | 17 | 4.2 | 146.8 | 30.0 | 62.2 | 1021.6 | 574.6 | 0.0 | 1.4 |
| 2023 | 23-03-2023 | 8 | 18 | 2.0 | 158.6 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-03-2023 | 8 | 19 | 4.5 | 165.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 23-03-2023 | 8 | 20 | 4.1 | 205.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |

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For N.D. International

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 23-03-2023 | 8 | 21 | 3.2 | 201.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 23-03-2023 | 8 | 22 | 3.2 | 128.9 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 23 | 4.8 | 188.9 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.6 |
| 2023 | 23-03-2023 | 8 | 24 | 6.2 | 202.6 | 18.4 | 42.4 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 24-03-2023 | 9 | 1 | 6.2 | 232.6 | 18.6 | 55.2 | 1016.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 24-03-2023 | 9 | 2 | 6.3 | 188.2 | 20.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 9.4 |
| 2023 | 24-03-2023 | 9 | 3 | 5.6 | 254.3 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 6.8 |
| 2023 | 24-03-2023 | 9 | 4 | 6.1 | 258.2 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 24-03-2023 | 9 | 5 | 4.8 | 254.6 | 22.0 | 54.3 | 1020.5 | 654.2 | 0.0 | 4.2 |
| 2023 | 24-03-2023 | 9 | 6 | 3.5 | 188.2 | 22.4 | 62.1 | 1016.8 | 560.2 | 0.0 | 2.6 |
| 2023 | 24-03-2023 | 9 | 7 | 4.6 | 158.6 | 24.0 | 49.8 | 1017.8 | 633.2 | 0.0 | 7.8 |
| 2023 | 24-03-2023 | 9 | 8 | 4.8 | 168.4 | 24.6 | 52.0 | 1019.2 | 562.2 | 0.0 | 4.3 |
| 2023 | 24-03-2023 | 9 | 9 | 3.5 | 166.5 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 2.8 |
| 2023 | 24-03-2023 | 9 | 10 | 4.6 | 177.5 | 28.4 | 60.2 | 1015.4 | 488.5 | 0.0 | 5.8 |
| 2023 | 24-03-2023 | 9 | 11 | 3.2 | 152.5 | 30.2 | 62.2 | 1019.2 | **562.2** | 0.0 | 4.8 |
| 2023 | 24-03-2023 | 9 | 12 | 4.2 | 144.3 | 31.2 | 63.3 | 1018.9 | **453.2** | 0.0 | 4.6 |
| 2023 | 24-03-2023 | 9 | 13 | 2.2 | 158.6 | 32.2 | 64.1 | 1021.2 | 654.2 | 0.0 | 2.8 |
| 2023 | 24-03-2023 | 9 | 14 | 2.5 | 165.2 | 32.4 | 64.3 | 1019.8 | 560.2 | 0.0 | 2.2 |
| 2023 | 24-03-2023 | 9 | 15 | 2.9 | 188.6 | 31.4 | 63.8 | 1018.9 | 633.2 | 0.0 | 2.0 |
| 2023 | 24-03-2023 | 9 | 16 | 2.8 | 182.6 | 30.2 | 60.2 | 1021.2 | 562.2 | 0.0 | 2.2 |
| 2023 | 24-03-2023 | 9 | 17 | 3.6 | 128.9 | 30.0 | 62.2 | 1021.6 | 453.2 | 0.0 | 1.4 |
| 2023 | 24-03-2023 | 9 | 18 | 3.2 | 188.9 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 24-03-2023 | 9 | 19 | 4.6 | 189.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.4 |
| 2023 | 24-03-2023 | 9 | 20 | 4.3 | 134.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 24-03-2023 | 9 | 21 | 2.6 | 198.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 24-03-2023 | 9 | 22 | 3.2 | 125.8 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 24-03-2023 | 9 | 23 | 4.4 | 164.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 24-03-2023 | 9 | 24 | 2.6 | 188.6 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 1 | 4.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 25-03-2023 | 10 | 2 | 5.2 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 25-03-2023 | 10 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 25-03-2023 | 10 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 25-03-2023 | 10 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 252.4 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 6 | 3.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 423.1 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 560.2 | 0.0 | 8.4 |
| 2023 | 25-03-2023 | 10 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 633.2 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 654.3 | 0.0 | 2.8 |
| 2023 | 25-03-2023 | 10 | 10 | 3.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 5.8 |
| 2023 | 25-03-2023 | 10 | 11 | 4.4 | 72.8 | 30.2 | 62.2 | 1016.5 | 560.2 | 0.0 | 4.9 |

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For N.D. International

K.P. De - CEO

Authorised Signatory

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 25-03-2023 | 10 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 633.2 | 0.0 | 4.6 |
| 2023 | 25-03-2023 | 10 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 654.3 | 0.0 | 3.2 |
| 2023 | 25-03-2023 | 10 | 14 | 2.6 | 82.3 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.2 |
| 2023 | 25-03-2023 | 10 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 488.5 | 0.0 | 2.0 |
| 2023 | 25-03-2023 | 10 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 288.4 | 0.0 | 1.1 |
| 2023 | 25-03-2023 | 10 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 488.5 | 0.0 | 1.4 |
| 2023 | 25-03-2023 | 10 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 288.4 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 25-03-2023 | 10 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 25-03-2023 | 10 | 21 | 5.0 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 25-03-2023 | 10 | 22 | 3.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-03-2023 | 10 | 23 | 3.1 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.8 |
| 2023 | 25-03-2023 | 10 | 24 | 2.7 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 26-03-2023 | 11 | 1 | 2.3 | 74.7 | 18.4 | 43.2 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 26-03-2023 | 11 | 2 | 2.8 | 67.7 | 18.8 | 46.4 | 1016.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 26-03-2023 | 11 | 3 | 2.0 | 66.1 | 19.6 | 47.1 | 1017.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 26-03-2023 | 11 | 4 | 2.4 | 40.7 | 22.4 | 48.5 | 1019.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 26-03-2023 | 11 | 5 | 5.1 | 84.2 | 23.4 | 46.5 | 1019.8 | 458.2 | 0.0 | 3.6 |
| 2023 | 26-03-2023 | 11 | 6 | 4.2 | 124.2 | 26.8 | 56.8 | 1015.4 | 524.2 | 0.0 | 5.2 |
| 2023 | 26-03-2023 | 11 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1016.5 | 488.9 | 0.0 | 5.0 |
| 2023 | 26-03-2023 | 11 | 8 | 3.6 | 17.3 | 28.0 | 56.2 | 1018.9 | 488.7 | 0.0 | 5.4 |
| 2023 | 26-03-2023 | 11 | 9 | 3.1 | 41.7 | 29.2 | 61.2 | 1021.2 | 488.2 | 0.0 | 4.3 |
| 2023 | 26-03-2023 | 11 | 10 | 2.7 | 49.8 | 29.6 | 52.6 | 1019.8 | 511.6 | 0.0 | 6.2 |
| 2023 | 26-03-2023 | 11 | 11 | 2.3 | 62.6 | 30.6 | 62.8 | 1018.9 | 412.2 | 0.0 | 7.2 |
| 2023 | 26-03-2023 | 11 | 12 | 2.8 | 60.8 | 30.8 | 62.4 | 1021.2 | 488.7 | 0.0 | 2.6 |
| 2023 | 26-03-2023 | 11 | 13 | 2.0 | 87.0 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 2.4 |
| 2023 | 26-03-2023 | 11 | 14 | 2.4 | 116.6 | 32.8 | 63.8 | 1021.8 | 511.6 | 0.0 | 2.8 |
| 2023 | 26-03-2023 | 11 | 15 | 2.6 | 108.8 | 33.2 | 64.2 | 1012.5 | 412.2 | 0.0 | 3.2 |
| 2023 | 26-03-2023 | 11 | 16 | 3.8 | 88.6 | 32.6 | 65.0 | 1019.2 | 488.7 | 0.0 | 4.2 |
| 2023 | 26-03-2023 | 11 | 17 | 4.1 | 87.6 | 32.0 | 64.0 | 1018.4 | 488.2 | 0.0 | 1.8 |
| 2023 | 26-03-2023 | 11 | 18 | 4.5 | 92.6 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 2.2 |
| 2023 | 26-03-2023 | 11 | 19 | 4.8 | 110.2 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 2.3 |
| 2023 | 26-03-2023 | 11 | 20 | 6.3 | 65.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 26-03-2023 | 11 | 21 | 6.6 | 86.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 26-03-2023 | 11 | 22 | 6.2 | 254.6 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 26-03-2023 | 11 | 23 | 4.8 | 88.4 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 26-03-2023 | 11 | 24 | 5.2 | 158.6 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 27-03-2023 | 12 | 1 | 4.2 | 188.7 | 19.2 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 27-03-2023 | 12 | 2 | 3.2 | 166.5 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 27-03-2023 | 12 | 3 | 2.9 | 177.5 | 20.2 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 27-03-2023 | 12 | 4 | 3.8 | 152.5 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 27-03-2023 | 12 | 5 | 3.6 | 146.8 | 23.2 | 54.3 | 1014.8 | 423.1 | 0.0 | 0.0 |
| 2023 | 27-03-2023 | 12 | 6 | 5.2 | 158.6 | 23.6 | 56.2 | 1016.8 | 480.6 | 0.0 | 0.0 |
| 2023 | 27-03-2023 | 12 | 7 | 4.6 | 165.2 | 23.2 | 49.8 | 1017.8 | 633.2 | 0.0 | 8.6 |
| 2023 | 27-03-2023 | 12 | 8 | 4.6 | 205.3 | 24.6 | 52.0 | 1019.2 | 568.4 | 0.0 | 2.8 |
| 2023 | 27-03-2023 | 12 | 9 | 2.6 | 201.6 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 3.2 |
| 2023 | 27-03-2023 | 12 | 10 | 3.2 | 128.9 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 5.8 |
| 2023 | 27-03-2023 | 12 | 11 | 2.1 | 188.9 | 30.2 | 62.2 | 1016.5 | 568.4 | 0.0 | 4.6 |
| 2023 | 27-03-2023 | 12 | 12 | 2.6 | 202.6 | 31.2 | 64.2 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 27-03-2023 | 12 | 13 | 3.6 | 232.6 | 32.2 | 64.1 | 1021.2 | 633.2 | 0.0 | 3.4 |
| 2023 | 27-03-2023 | 12 | 14 | 2.4 | 188.2 | 32.4 | 64.3 | 1019.8 | 568.4 | 0.0 | 2.8 |
| 2023 | 27-03-2023 | 12 | 15 | 4.6 | 254.3 | 31.4 | 63.8 | 1018.9 | 453.2 | 0.0 | 2.0 |
| 2023 | 27-03-2023 | 12 | 16 | 4.6 | 258.2 | 30.2 | 62.2 | 1021.2 | 488.5 | 0.0 | 1.8 |
| 2023 | 27-03-2023 | 12 | 17 | 3.6 | 254.6 | 30.0 | 62.2 | 1021.6 | 308.5 | 0.0 | 2.4 |
| 2023 | 27-03-2023 | 12 | 18 | 4.2 | 188.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 27-03-2023 | 12 | 19 | 4.6 | 158.6 | 28.6 | 60.2 | 1012.5 | 0.0 | 0.0 | 2.8 |
| 2023 | 27-03-2023 | 12 | 20 | 3.6 | 86.7 | 27.6 | 57.2 | 1019.2 | 0.0 | 0.0 | 4.4 |
| 2023 | 27-03-2023 | 12 | 21 | 5.6 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 3.2 |
| 2023 | 27-03-2023 | 12 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.5 |
| 2023 | 27-03-2023 | 12 | 23 | 5.0 | 120.6 | 23.2 | 48.0 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 27-03-2023 | 12 | 24 | 4.6 | 130.2 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 28-03-2023 | 13 | 1 | 4.6 | 222.5 | 18.6 | 54.4 | 1014.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 28-03-2023 | 13 | 2 | 4.8 | 254.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 28-03-2023 | 13 | 3 | 6.5 | 88.4 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 8.6 |
| 2023 | 28-03-2023 | 13 | 4 | 4.6 | 158.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 7.6 |
| 2023 | 28-03-2023 | 13 | 5 | 5.8 | 188.7 | 21.8 | 49.2 | 1016.2 | 388.2 | 0.0 | 7.0 |
| 2023 | 28-03-2023 | 13 | 6 | 6.2 | 166.5 | 22.0 | 54.3 | 1014.8 | 682.6 | 0.0 | 3.4 |
| 2023 | 28-03-2023 | 13 | 7 | 6.3 | 177.5 | 22.4 | 62.1 | 1016.8 | 633.2 | 0.0 | 2.6 |
| 2023 | 28-03-2023 | 13 | 8 | 4.8 | 152.5 | 23.2 | 49.8 | 1017.8 | 652.1 | 0.0 | 8.4 |
| 2023 | 28-03-2023 | 13 | 9 | 6.9 | 146.8 | 24.6 | 52.0 | 1019.2 | 530.2 | 0.0 | 7.2 |
| 2023 | 28-03-2023 | 13 | 10 | 6.4 | 158.6 | 26.8 | 57.2 | 1019.8 | 386.0 | 0.0 | 6.4 |
| 2023 | 28-03-2023 | 13 | 11 | 6.8 | 165.2 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 6.4 |
| 2023 | 28-03-2023 | 13 | 12 | 4.6 | 188.7 | 30.2 | 62.2 | 1016.5 | 530.2 | 0.0 | 4.9 |
| 2023 | 28-03-2023 | 13 | 13 | 5.8 | 166.5 | 31.2 | 63.3 | 1018.9 | 386.0 | 0.0 | 2.4 |
| 2023 | 28-03-2023 | 13 | 14 | 6.2 | 177.5 | 32.2 | 64.1 | 1021.2 | 633.2 | 0.0 | 0.0 |
| 2023 | 28-03-2023 | 13 | 15 | 6.3 | 152.5 | 32.4 | 64.3 | 1019.8 | 652.1 | 0.0 | 2.1 |
| 2023 | 28-03-2023 | 13 | 16 | 4.8 | 146.8 | 31.4 | 63.8 | 1018.9 | 530.2 | 0.0 | 2.0 |
| 2023 | 28-03-2023 | 13 | 17 | 6.9 | 158.6 | 30.2 | 60.2 | 1021.2 | 386.0 | 0.0 | 2.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 28-03-2023 | 13 | 18 | 6.4 | 165.2 | 30.0 | 62.2 | 1021.6 | 292.3 | 0.0 | 2.4 |
| 2023 | 28-03-2023 | 13 | 19 | 6.8 | 205.3 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 3.4 |
| 2023 | 28-03-2023 | 13 | 20 | 6.4 | 201.6 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 5.2 |
| 2023 | 28-03-2023 | 13 | 21 | 5.6 | 128.9 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 28-03-2023 | 13 | 22 | 6.2 | 88.9 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 28-03-2023 | 13 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 28-03-2023 | 13 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 29-03-2023 | 14 | 1 | 4.8 | 130.2 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 8.4 |
| 2023 | 29-03-2023 | 14 | 2 | 5.8 | 222.5 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 6.4 |
| 2023 | 29-03-2023 | 14 | 3 | 6.2 | 125.8 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 29-03-2023 | 14 | 4 | 6.2 | 164.8 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 29-03-2023 | 14 | 5 | 6.6 | 188.6 | 22.0 | 54.3 | 1014.8 | 444.2 | 0.0 | 0.0 |
| 2023 | 29-03-2023 | 14 | 6 | 5.6 | 232.6 | 22.4 | 62.1 | 1016.8 | 560.2 | 0.0 | 0.0 |
| 2023 | 29-03-2023 | 14 | 7 | 6.1 | 366.2 | 23.2 | 49.8 | 1017.8 | 633.2 | 0.0 | 7.2 |
| 2023 | 29-03-2023 | 14 | 8 | 4.8 | 334.5 | 24.6 | 52.0 | 1019.2 | 562.2 | 0.0 | 0.0 |
| 2023 | 29-03-2023 | 14 | 9 | 3.5 | 258.2 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 4.8 |
| 2023 | 29-03-2023 | 14 | 10 | 2.2 | 254.6 | 28.4 | 60.2 | 1015.4 | 488.5 | 0.0 | 5.8 |
| 2023 | 29-03-2023 | 14 | 11 | 3.2 | 88.4 | 30.2 | 62.2 | 1019.2 | 288.4 | 0.0 | 4.8 |
| 2023 | 29-03-2023 | 14 | 12 | 4.2 | 158.6 | 31.2 | 63.3 | 1018.9 | 562.2 | 0.0 | 2.4 |
| 2023 | 29-03-2023 | 14 | 13 | 2.5 | 188.7 | 32.2 | 64.1 | 1021.2 | 453.2 | 0.0 | 0.0 |
| 2023 | 29-03-2023 | 14 | 14 | 2.5 | 166.5 | 32.4 | 64.3 | 1019.8 | 488.5 | 0.0 | 2.2 |
| 2023 | 29-03-2023 | 14 | 15 | 2.6 | 177.5 | 31.4 | 63.8 | 1018.9 | 288.4 | 0.0 | 2.0 |
| 2023 | 29-03-2023 | 14 | 16 | 2.3 | 152.5 | 30.2 | 60.2 | 1021.2 | 453.2 | 0.0 | 2.2 |
| 2023 | 29-03-2023 | 14 | 17 | 6.4 | 146.8 | 30.0 | 62.2 | 1021.6 | 488.5 | 0.0 | 2.4 |
| 2023 | 29-03-2023 | 14 | 18 | 2.6 | 158.6 | 29.8 | 61.2 | 1020.4 | 288.4 | 0.0 | 0.0 |
| 2023 | 29-03-2023 | 14 | 19 | 2.8 | 165.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 29-03-2023 | 14 | 20 | 4.4 | 205.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 29-03-2023 | 14 | 21 | 4.8 | 201.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 29-03-2023 | 14 | 22 | 4.8 | 128.9 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.4 |
| 2023 | 29-03-2023 | 14 | 23 | 3.8 | 188.9 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.6 |
| 2023 | 29-03-2023 | 14 | 24 | 3.6 | 177.5 | 19.2 | 54.6 | 1015.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 30-03-2023 | 15 | 1 | 3.6 | 152.5 | 19.2 | 57.2 | 1017.2 | 0.0 | 0.0 | 8.1 |
| 2023 | 30-03-2023 | 15 | 2 | 4.6 | 146.8 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 9.4 |
| 2023 | 30-03-2023 | 15 | 3 | 4.3 | 158.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 30-03-2023 | 15 | 4 | 3.2 | 165.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 30-03-2023 | 15 | 5 | 3.6 | 205.3 | 22.0 | 54.3 | 1014.8 | 423.1 | 0.0 | 6.2 |
| 2023 | 30-03-2023 | 15 | 6 | 3.6 | 201.6 | 22.4 | 62.1 | 1016.8 | 560.2 | 0.0 | 4.8 |
| 2023 | 30-03-2023 | 15 | 7 | 4.6 | 128.9 | 23.2 | 49.8 | 1017.8 | 633.2 | 0.0 | 8.4 |
| 2023 | 30-03-2023 | 15 | 8 | 4.3 | 188.9 | 24.6 | 52.0 | 1019.2 | 654.3 | 0.0 | 0.0 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 30-03-2023 | 15 | 9 | 3.2 | 188.4 | 26.8 | 57.2 | 1019.8 | 453.2 | 0.0 | 2.8 |
| 2023 | 30-03-2023 | 15 | 10 | 3.4 | 88.6 | 28.4 | 60.2 | 1015.4 | 488.5 | 0.0 | 5.8 |
| 2023 | 30-03-2023 | 15 | 11 | 4.4 | 87.6 | 30.2 | 62.2 | 1016.5 | 654.3 | 0.0 | 4.9 |
| 2023 | 30-03-2023 | 15 | 12 | 4.2 | 92.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.6 |
| 2023 | 30-03-2023 | 15 | 13 | 3.6 | 110.2 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 0.0 |
| 2023 | 30-03-2023 | 15 | 14 | 5.6 | 65.8 | 32.4 | 64.3 | 1019.8 | 654.3 | 0.0 | 2.2 |
| 2023 | 30-03-2023 | 15 | 15 | 6.5 | 86.7 | 31.4 | 63.8 | 1018.9 | 453.2 | 0.0 | 2.0 |
| 2023 | 30-03-2023 | 15 | 16 | 4.6 | 75.6 | 30.2 | 60.2 | 1021.2 | 488.5 | 0.0 | 1.1 |
| 2023 | 30-03-2023 | 15 | 17 | 3.2 | 99.2 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 1.4 |
| 2023 | 30-03-2023 | 15 | 18 | 2.8 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 30-03-2023 | 15 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 4.8 |
| 2023 | 30-03-2023 | 15 | 20 | 5.6 | 86.7 | 27.6 | 67.0 | 1019.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 30-03-2023 | 15 | 21 | 3.5 | 75.6 | 26.5 | 57.2 | 1018.9 | 0.0 | 0.0 | 2.8 |
| 2023 | 30-03-2023 | 15 | 22 | 4.2 | 99.2 | 25.3 | 53.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 30-03-2023 | 15 | 23 | 2.6 | 48.5 | 23.2 | 48.2 | 1021.6 | 0.0 | 0.0 | 2.8 |
| 2023 | 30-03-2023 | 15 | 24 | 5.2 | 68.5 | 18.4 | 42.4 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 31-03-2023 | 16 | 1 | 3.8 | 74.7 | 18.6 | 43.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 31-03-2023 | 16 | 2 | 4.2 | 67.7 | 18.8 | 46.4 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 31-03-2023 | 16 | 3 | 5.6 | 66.1 | 19.6 | 47.1 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 31-03-2023 | 16 | 4 | 5.2 | 40.7 | 22.4 | 48.5 | 1018.6 | 0.0 | 0.0 | 2.6 |

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K.P. De - CEO

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 31-03-2023 | 16 | 5 | 2.6 | 84.2 | 23.4 | 46.5 | 1019.2 | 458.0 | 0.0 | 3.6 |
| 2023 | 31-03-2023 | 16 | 6 | 4.2 | 124.2 | 26.8 | 56.8 | 1017.2 | 523.3 | 0.0 | 5.4 |
| 2023 | 31-03-2023 | 16 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1015.2 | 642.5 | 0.0 | 5.0 |
| 2023 | 31-03-2023 | 16 | 8 | 4.2 | 17.3 | 28.0 | 56.2 | 1014.8 | 264.2 | 0.0 | 5.4 |
| 2023 | 31-03-2023 | 16 | 9 | 2.6 | 41.7 | 29.2 | 61.2 | 1016.2 | 458.2 | 0.0 | 4.3 |
| 2023 | 31-03-2023 | 16 | 10 | 2.1 | 49.8 | 29.6 | 52.6 | 1014.8 | 385.2 | 0.0 | 5.2 |
| 2023 | 31-03-2023 | 16 | 11 | 2.3 | 62.6 | 30.6 | 62.8 | 1016.8 | 358.6 | 0.0 | 7.2 |
| 2023 | 31-03-2023 | 16 | 12 | 2.8 | 60.8 | 30.8 | 62.4 | 1017.8 | 488.7 | 0.0 | 2.6 |
| 2023 | 31-03-2023 | 16 | 13 | 3.2 | 87.0 | 31.4 | 68.2 | 1019.2 | 405.8 | 0.0 | 2.4 |
| 2023 | 31-03-2023 | 16 | 14 | 6.2 | 116.6 | 32.8 | 63.8 | 1019.8 | 511.6 | 0.0 | 3.4 |
| 2023 | 31-03-2023 | 16 | 15 | 2.6 | 108.8 | 33.2 | 64.2 | 1015.4 | 412.2 | 0.0 | 3.2 |
| 2023 | 31-03-2023 | 16 | 16 | 4.8 | 88.6 | 32.6 | 65.0 | 1019.2 | 395.5 | 0.0 | 3.2 |
| 2023 | 31-03-2023 | 16 | 17 | 4.1 | 87.6 | 32.0 | 64.0 | 1018.9 | 354.2 | 0.0 | 5.8 |
| 2023 | 31-03-2023 | 16 | 18 | 4.5 | 92.6 | 31.2 | 62.3 | 1021.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 31-03-2023 | 16 | 19 | 2.6 | 110.2 | 29.8 | 62.2 | 1019.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 31-03-2023 | 16 | 20 | 6.3 | 65.8 | 29.2 | 61.2 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 31-03-2023 | 16 | 21 | 6.2 | 86.7 | 27.6 | 57.6 | 1021.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 31-03-2023 | 16 | 22 | 6.2 | 75.6 | 27.1 | 54.2 | 1021.6 | 0.0 | 0.0 | 2.0 |
| 2023 | 31-03-2023 | 16 | 23 | 4.2 | 120.4 | 26.4 | 52.6 | 1020.4 | 0.0 | 0.0 | 1.8 |
| 2023 | 31-03-2023 | 16 | 24 | 5.2 | 98.8 | 26.0 | 57.5 | 1012.5 | 0.0 | 0.0 | 2.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob.: 9830654565, 9830789456
E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

Certificate No. W(M)/23-24/0558 Date: June 6 , 2023

**Name of Customer** : M/s. Geosumukh Inframines Pvt. Ltd.

**Address** : 75/A/27 , Lal Bhadur Sasti Road , Kannagar , Hooghly , West Bengal - 712235.

: Site Address : Mouja- Karakpur, Block-Dantan-1 .

**Description of Sample** : Weather Monitoring

**Sampling Locaton** : M-2

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 01-04-2023 | 17 | 1 | 2.4 | 88.6 | 19.2 | 55.2 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 17 | 2 | 3.2 | 120.2 | 19.4 | 65.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 01-04-2023 | 17 | 3 | 2.9 | 92.6 | 20.2 | 48.8 | 1018.6 | 0.0 | 0.0 | 4.4 |
| 2023 | 01-04-2023 | 17 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 01-04-2023 | 17 | 5 | 2.6 | 65.8 | 23.2 | 54.3 | 1015.2 | 423.1 | 0.0 | 3.5 |
| 2023 | 01-04-2023 | 17 | 6 | 5.2 | 86.7 | 23.6 | 56.2 | 1017.2 | 480.6 | 0.0 | 3.2 |
| 2023 | 01-04-2023 | 17 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1015.2 | 633.2 | 0.0 | 8.6 |
| 2023 | 01-04-2023 | 17 | 8 | 3.6 | 99.2 | 24.6 | 52.0 | 1014.8 | 568.4 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 17 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1016.2 | 453.2 | 0.0 | 3.2 |
| 2023 | 01-04-2023 | 17 | 10 | 3.2 | 140.6 | 28.4 | 60.2 | 1014.8 | 488.5 | 0.0 | 5.8 |
| 2023 | 01-04-2023 | 17 | 11 | 2.2 | 72.8 | 30.2 | 62.2 | 1016.8 | 568.4 | 0.0 | 4.6 |
| 2023 | 01-04-2023 | 17 | 12 | 2.6 | 70.6 | 31.2 | 64.2 | 1017.8 | 453.2 | 0.0 | 4.6 |
| 2023 | 01-04-2023 | 17 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1019.2 | 488.5 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 17 | 14 | 2.7 | 82.3 | 32.4 | 64.3 | 1019.8 | 568.4 | 0.0 | 2.8 |
| 2023 | 01-04-2023 | 17 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1015.4 | 453.2 | 0.0 | 2.0 |
| 2023 | 01-04-2023 | 17 | 16 | 4.6 | 87.6 | 30.2 | 62.2 | 1016.5 | 488.5 | 0.0 | 1.8 |
| 2023 | 01-04-2023 | 17 | 17 | 3.2 | 92.6 | 30.0 | 62.2 | 1018.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 01-04-2023 | 17 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 17 | 19 | 4.6 | 65.8 | 28.6 | 60.2 | 1019.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 01-04-2023 | 17 | 20 | 3.6 | 86.7 | 27.6 | 57.2 | 1018.9 | 0.0 | 0.0 | 4.4 |
| 2023 | 01-04-2023 | 17 | 21 | 4.2 | 75.6 | 26.5 | 57.2 | 1021.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 01-04-2023 | 17 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1021.6 | 0.0 | 0.0 | 3.5 |
| 2023 | 01-04-2023 | 17 | 23 | 5.0 | 120.6 | 23.2 | 48.0 | 1021.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 01-04-2023 | 17 | 24 | 2.5 | 68.5 | 18.4 | 42.4 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 1 | 4.6 | 89.2 | 18.6 | 54.4 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 01-04-2023 | 18 | 2 | 4.6 | 88.4 | 18.8 | 55.2 | 1018.4 | 0.0 | 0.0 | 8.1 |
| 2023 | 01-04-2023 | 18 | 3 | 6.1 | 86.5 | 19.4 | 65.2 | 1018.6 | 0.0 | 0.0 | 8.6 |
| 2023 | 01-04-2023 | 18 | 4 | 6.2 | 83.5 | 20.4 | 48.8 | 1017.9 | 0.0 | 0.0 | 7.6 |
| 2023 | 01-04-2023 | 18 | 5 | 6.2 | 54.3 | 21.8 | 49.2 | 1019.2 | 0.0 | 0.0 | 7.0 |
| 2023 | 01-04-2023 | 18 | 6 | 4.8 | 33.8 | 22.0 | 54.3 | 1014.8 | 152.2 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 7 | 5.6 | 24.9 | 22.4 | 62.1 | 1016.8 | 156.2 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 8 | 2.3 | 54.8 | 23.2 | 49.8 | 1017.8 | 238.1 | 0.0 | 8.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 01-04-2023 | 18 | 9 | 4.6 | 52.6 | 24.6 | 52.0 | 1019.2 | 388.2 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 10 | 4.8 | 39.3 | 26.8 | 57.2 | 1019.8 | 682.6 | 0.0 | 6.4 |
| 2023 | 01-04-2023 | 18 | 11 | 6.5 | 56.8 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 6.4 |
| 2023 | 01-04-2023 | 18 | 12 | 4.6 | 88.2 | 30.2 | 62.2 | 1016.5 | 652.1 | 0.0 | 4.9 |
| 2023 | 01-04-2023 | 18 | 13 | 5.8 | 74.7 | 31.2 | 63.3 | 1018.9 | 530.2 | 0.0 | 2.4 |
| 2023 | 01-04-2023 | 18 | 14 | 6.2 | 68.4 | 32.2 | 64.1 | 1021.2 | 386.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 15 | 6.3 | 73.7 | 32.4 | 64.3 | 1019.8 | 292.3 | 0.0 | 2.1 |
| 2023 | 01-04-2023 | 18 | 16 | 4.8 | 104.2 | 31.4 | 63.8 | 1018.9 | 157.2 | 0.0 | 2.0 |
| 2023 | 01-04-2023 | 18 | 17 | 6.2 | 102.6 | 30.2 | 60.2 | 1021.2 | 0.0 | 0.0 | 2.2 |
| 2023 | 01-04-2023 | 18 | 18 | 6.6 | 130.2 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 2.4 |
| 2023 | 01-04-2023 | 18 | 19 | 5.6 | 222.5 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 20 | 6.1 | 125.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 5.2 |
| 2023 | 01-04-2023 | 18 | 21 | 4.8 | 164.8 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 01-04-2023 | 18 | 22 | 3.5 | 188.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 01-04-2023 | 18 | 23 | 2.2 | 232.6 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 01-04-2023 | 18 | 24 | 3.2 | 366.2 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 5.8 |
| 2023 | 02-04-2023 | 19 | 1 | 4.2 | 334.5 | 18.8 | 55.2 | 1019.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 02-04-2023 | 19 | 2 | 5.8 | 222.5 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 02-04-2023 | 19 | 3 | 6.2 | 125.8 | 20.4 | 48.8 | 1016.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 02-04-2023 | 19 | 4 | 6.2 | 164.8 | 21.8 | 49.2 | 1017.6 | 0.0 | 0.0 | 2.2 |
| 2023 | 02-04-2023 | 19 | 5 | 6.6 | 188.6 | 22.0 | 54.3 | 1014.8 | 444.2 | 0.0 | 2.0 |
| 2023 | 02-04-2023 | 19 | 6 | 5.6 | 232.6 | 22.4 | 62.1 | 1017.2 | 560.2 | 0.0 | 2.2 |
| 2023 | 02-04-2023 | 19 | 7 | 6.1 | 366.2 | 23.2 | 49.8 | 1015.2 | 633.2 | 0.0 | 2.4 |
| 2023 | 02-04-2023 | 19 | 8 | 4.8 | 334.5 | 24.6 | 52.0 | 1014.8 | 562.2 | 0.0 | 0.0 |
| 2023 | 02-04-2023 | 19 | 9 | 3.5 | 258.2 | 26.8 | 57.2 | 1016.2 | 453.2 | 0.0 | 4.8 |
| 2023 | 02-04-2023 | 19 | 10 | 2.2 | 254.6 | 28.4 | 60.2 | 1014.8 | 488.5 | 0.0 | 3.2 |
| 2023 | 02-04-2023 | 19 | 11 | 3.2 | 88.4 | 30.2 | 62.2 | 1016.8 | 288.4 | 0.0 | 3.2 |
| 2023 | 02-04-2023 | 19 | 12 | 4.2 | 158.6 | 31.2 | 63.3 | 1017.8 | 453.2 | 0.0 | 3.4 |
| 2023 | 02-04-2023 | 19 | 13 | 2.5 | 188.7 | 32.2 | 64.1 | 1019.2 | 488.5 | 0.0 | 3.6 |
| 2023 | 02-04-2023 | 19 | 14 | 2.5 | 166.5 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 2.2 |
| 2023 | 02-04-2023 | 19 | 15 | 2.9 | 177.5 | 31.4 | 63.8 | 1015.4 | 488.5 | 0.0 | 2.0 |
| 2023 | 02-04-2023 | 19 | 16 | 3.1 | 152.5 | 30.2 | 60.2 | 1016.5 | 302.2 | 0.0 | 2.2 |
| 2023 | 02-04-2023 | 19 | 17 | 3.0 | 146.8 | 30.0 | 62.2 | 1018.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 02-04-2023 | 19 | 18 | 4.2 | 158.6 | 29.8 | 61.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 02-04-2023 | 19 | 19 | 2.5 | 165.2 | 28.6 | 61.2 | 1019.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 02-04-2023 | 19 | 20 | 2.6 | 205.3 | 27.6 | 67.0 | 1018.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 02-04-2023 | 19 | 21 | 2.3 | 188.2 | 26.2 | 57.2 | 1020.6 | 0.0 | 0.0 | 5.2 |
| 2023 | 02-04-2023 | 19 | 22 | 6.4 | 128.9 | 25.3 | 53.2 | 1021.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 02-04-2023 | 19 | 23 | 2.6 | 188.9 | 23.2 | 48.2 | 1021.8 | 0.0 | 0.0 | 2.8 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 02-04-2023 | 19 | 24 | 2.8 | 188.4 | 19.2 | 54.6 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 1 | 1.6 | 36.3 | 21.0 | 41.6 | 1021.2 | 0.0 | 0.0 | 5.8 |
| 2023 | 03-04-2023 | 20 | 2 | 2.4 | 34.3 | 21.0 | 41.1 | 1019.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 03-04-2023 | 20 | 3 | 5.3 | 32.2 | 20.3 | 42.7 | 1018.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 03-04-2023 | 20 | 4 | 5.3 | 27.9 | 19.6 | 44.5 | 1020.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 5 | 4.5 | 23.1 | 19.0 | 46.7 | 1021.6 | 365.0 | 0.0 | 2.2 |
| 2023 | 03-04-2023 | 20 | 6 | 3.2 | 12.5 | 18.8 | 47.5 | 1021.8 | 480.2 | 0.0 | 2.0 |
| 2023 | 03-04-2023 | 20 | 7 | 3.5 | 4.0 | 19.3 | 45.6 | 1012.5 | 700.4 | 0.0 | 2.2 |
| 2023 | 03-04-2023 | 20 | 8 | 2.4 | 345.3 | 20.1 | 43.9 | 1019.2 | 772.7 | 0.0 | 2.4 |
| 2023 | 03-04-2023 | 20 | 9 | 1.8 | 356.0 | 21.6 | 40.4 | 1018.4 | 665.2 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 10 | 1.3 | 23.6 | 22.8 | 38.2 | 1018.6 | 526.3 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 11 | 1.3 | 59.6 | 23.9 | 36.0 | 1017.9 | 772.7 | 1.2 | 0.0 |
| 2023 | 03-04-2023 | 20 | 12 | 1.1 | 73.8 | 24.7 | 34.4 | 1019.2 | 665.2 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 13 | 0.8 | 84.9 | 25.5 | 32.9 | 1014.8 | 665.2 | 0.0 | 1.2 |
| 2023 | 03-04-2023 | 20 | 14 | 0.4 | 95.0 | 26.0 | 31.7 | 1017.2 | 526.3 | 2.2 | 2.2 |
| 2023 | 03-04-2023 | 20 | 15 | 0.4 | 252.1 | 26.2 | 30.7 | 1019.8 | 626.2 | 0.0 | 2.5 |
| 2023 | 03-04-2023 | 20 | 16 | 1.0 | 79.4 | 25.7 | 37.3 | 1015.4 | 355.1 | 0.0 | 1.2 |
| 2023 | 03-04-2023 | 20 | 17 | 1.8 | 87.3 | 25.0 | 40.3 | 1016.5 | 0.0 | 3.4 | 2.1 |
| 2023 | 03-04-2023 | 20 | 18 | 2.7 | 83.2 | 24.2 | 42.4 | 1018.9 | 0.0 | 0.0 | 0.5 |
| 2023 | 03-04-2023 | 20 | 19 | 3.4 | 78.8 | 23.3 | 40.4 | 1021.2 | 0.0 | 0.0 | 3.7 |
| 2023 | 03-04-2023 | 20 | 20 | 3.5 | 83.7 | 22.4 | 38.2 | 1019.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 03-04-2023 | 20 | 21 | 2.6 | 83.0 | 21.9 | 37.5 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 22 | 1.2 | 101.4 | 21.3 | 39.0 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 03-04-2023 | 20 | 23 | 3.2 | 115.9 | 19.8 | 36.2 | 1021.6 | 0.0 | 0.0 | 2.8 |
| 2023 | 03-04-2023 | 20 | 24 | 2.4 | 109.0 | 19.5 | 46.9 | 1021.8 | 0.0 | 0.0 | 2.0 |
| 2023 | 04-04-2023 | 21 | 1 | 5.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 1.8 |
| 2023 | 04-04-2023 | 21 | 2 | 6.0 | 120.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 04-04-2023 | 21 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 04-04-2023 | 21 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 04-04-2023 | 21 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 367.0 | 0.0 | 4.4 |
| 2023 | 04-04-2023 | 21 | 6 | 5.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 564.7 | 0.0 | 3.2 |
| 2023 | 04-04-2023 | 21 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 707.5 | 0.0 | 3.5 |
| 2023 | 04-04-2023 | 21 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 782.3 | 0.0 | 3.2 |
| 2023 | 04-04-2023 | 21 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 783.2 | 0.0 | 8.6 |
| 2023 | 04-04-2023 | 21 | 10 | 3.2 | 140.6 | 28.4 | 60.2 | 1015.4 | 709.9 | 0.0 | 0.0 |
| 2023 | 04-04-2023 | 21 | 11 | 2.1 | 72.8 | 30.2 | 62.2 | 1016.5 | 568.7 | 0.0 | 3.2 |
| 2023 | 04-04-2023 | 21 | 12 | 2.8 | 70.6 | 31.2 | 63.3 | 1018.9 | 783.2 | 0.0 | 5.8 |
| 2023 | 04-04-2023 | 21 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 709.9 | 0.0 | 4.6 |
| 2023 | 04-04-2023 | 21 | 14 | 2.4 | 82.3 | 32.4 | 64.3 | 1019.8 | 568.7 | 0.0 | 4.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 04-04-2023 | 21 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 372.3 | 0.0 | 0.0 |
| 2023 | 04-04-2023 | 21 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 375.2 | 0.0 | 2.8 |
| 2023 | 04-04-2023 | 21 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 388.2 | 0.0 | 2.0 |
| 2023 | 04-04-2023 | 21 | 18 | 3.8 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 1.8 |
| 2023 | 04-04-2023 | 21 | 19 | 4.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 2.4 |
| 2023 | 04-04-2023 | 21 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 04-04-2023 | 21 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1016.8 | 0.0 | 0.0 | 7.4 |
| 2023 | 04-04-2023 | 21 | 22 | 6.3 | 99.2 | 25.3 | 53.2 | 1017.8 | 0.0 | 0.0 | 5.4 |
| 2023 | 04-04-2023 | 21 | 23 | 6.4 | 120.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 5.6 |
| 2023 | 04-04-2023 | 21 | 24 | 6.5 | 68.5 | 19.2 | 42.4 | 1019.8 | 0.0 | 0.0 | 4.5 |
| 2023 | 05-04-2023 | 22 | 1 | 5.5 | 89.2 | 19.6 | 51.8 | 1015.4 | 0.0 | 0.0 | 3.7 |
| 2023 | 05-04-2023 | 22 | 2 | 4.6 | 88.4 | 19.8 | 52.2 | 1016.5 | 0.0 | 0.0 | 2.4 |
| 2023 | 05-04-2023 | 22 | 3 | 4.3 | 86.5 | 20.2 | 54.2 | 1018.9 | 0.0 | 0.0 | 1.1 |
| 2023 | 05-04-2023 | 22 | 4 | 4.8 | 83.5 | 20.4 | 48.8 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 05-04-2023 | 22 | 5 | 6.5 | 54.3 | 21.8 | 49.2 | 1019.8 | 368.1 | 0.0 | 0.0 |
| 2023 | 05-04-2023 | 22 | 6 | 4.6 | 33.8 | 22.0 | 54.3 | 1018.9 | 565.8 | 0.0 | 0.0 |
| 2023 | 05-04-2023 | 22 | 7 | 5.8 | 24.9 | 22.4 | 62.1 | 1021.2 | 708.9 | 0.0 | 0.2 |
| 2023 | 05-04-2023 | 22 | 8 | 6.2 | 54.8 | 23.2 | 49.8 | 1021.6 | 785.0 | 0.0 | 0.3 |
| 2023 | 05-04-2023 | 22 | 9 | 6.3 | 52.6 | 24.6 | 52.0 | 1021.8 | 787.1 | 0.0 | 0.4 |
| 2023 | 05-04-2023 | 22 | 10 | 4.8 | 39.3 | 26.8 | 57.2 | 1012.5 | 713.9 | 0.0 | 1.3 |
| 2023 | 05-04-2023 | 22 | 11 | 6.9 | 56.8 | 28.4 | 60.2 | 1015.4 | 785.0 | 0.0 | 1.4 |
| 2023 | 05-04-2023 | 22 | 12 | 6.4 | 88.2 | 30.2 | 62.2 | 1016.5 | 787.1 | 2.3 | 0.9 |
| 2023 | 05-04-2023 | 22 | 13 | 5.8 | 74.7 | 31.2 | 63.3 | 1018.9 | 713.9 | 0.0 | 1.4 |
| 2023 | 05-04-2023 | 22 | 14 | 6.2 | 68.4 | 32.2 | 64.1 | 1021.2 | 573.4 | 0.0 | 2.2 |
| 2023 | 05-04-2023 | 22 | 15 | 6.3 | 177.5 | 32.4 | 64.3 | 1019.8 | 376.7 | 0.0 | 1.8 |
| 2023 | 05-04-2023 | 22 | 16 | 4.8 | 152.5 | 31.4 | 63.8 | 1018.9 | 356.2 | 0.0 | 0.7 |
| 2023 | 05-04-2023 | 22 | 17 | 6.9 | 146.8 | 30.2 | 60.2 | 1021.2 | 348.2 | 3.4 | 1.6 |
| 2023 | 05-04-2023 | 22 | 18 | 6.4 | 158.6 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 2.6 |
| 2023 | 05-04-2023 | 22 | 19 | 6.8 | 165.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.9 |
| 2023 | 05-04-2023 | 22 | 20 | 6.4 | 205.3 | 28.6 | 61.2 | 1012.5 | 0.0 | 2.8 | 4.2 |
| 2023 | 05-04-2023 | 22 | 21 | 5.6 | 201.6 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 05-04-2023 | 22 | 22 | 6.2 | 128.9 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 5.4 |
| 2023 | 05-04-2023 | 22 | 23 | 3.5 | 188.9 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 6.6 |
| 2023 | 05-04-2023 | 22 | 24 | 2.2 | 202.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 1.7 |
| 2023 | 06-04-2023 | 23 | 1 | 3.2 | 232.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 0.3 |
| 2023 | 06-04-2023 | 23 | 2 | 4.2 | 256.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 06-04-2023 | 23 | 3 | 2.5 | 254.3 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 3.8 |
| 2023 | 06-04-2023 | 23 | 4 | 2.5 | 258.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 6.2 |
| 2023 | 06-04-2023 | 23 | 5 | 2.9 | 254.6 | 22.0 | 54.3 | 1014.8 | 369.4 | 0.0 | 4.5 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

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An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 06-04-2023 | 23 | 6 | 3.1 | 188.2 | 22.4 | 62.1 | 1016.8 | 567.5 | 0.0 | 5.2 |
| 2023 | 06-04-2023 | 23 | 7 | 3.0 | 366.2 | 23.2 | 49.8 | 1017.8 | 710.8 | 0.0 | 2.8 |
| 2023 | 06-04-2023 | 23 | 8 | 4.8 | 334.5 | 24.6 | 52.0 | 1019.2 | 786.7 | 0.0 | 7.2 |
| 2023 | 06-04-2023 | 23 | 9 | 3.5 | 258.2 | 26.8 | 57.2 | 1019.8 | 788.8 | 0.0 | 6.4 |
| 2023 | 06-04-2023 | 23 | 10 | 2.2 | 254.6 | 28.4 | 60.2 | 1015.4 | 716.2 | 0.0 | 4.8 |
| 2023 | 06-04-2023 | 23 | 11 | 3.2 | 88.4 | 30.2 | 62.2 | 1019.2 | 786.7 | 0.0 | 5.6 |
| 2023 | 06-04-2023 | 23 | 12 | 4.2 | 158.6 | 31.2 | 63.3 | 1018.9 | 788.8 | 0.0 | 6.4 |
| 2023 | 06-04-2023 | 23 | 13 | 2.5 | 188.7 | 32.2 | 64.1 | 1021.2 | 716.2 | 0.0 | 2.6 |
| 2023 | 06-04-2023 | 23 | 14 | 2.5 | 166.5 | 32.4 | 64.3 | 1019.8 | 575.6 | 0.0 | 3.4 |
| 2023 | 06-04-2023 | 23 | 15 | 2.9 | 177.5 | 31.4 | 63.8 | 1018.9 | 716.2 | 0.0 | 3.8 |
| 2023 | 06-04-2023 | 23 | 16 | 3.1 | 152.5 | 30.2 | 60.2 | 1021.2 | 786.7 | 0.0 | 2.8 |
| 2023 | 06-04-2023 | 23 | 17 | 3.0 | 146.8 | 30.0 | 62.2 | 1021.6 | 788.8 | 0.0 | 1.7 |
| 2023 | 06-04-2023 | 23 | 18 | 4.2 | 158.6 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 2.6 |
| 2023 | 06-04-2023 | 23 | 19 | 1.6 | 165.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 3.8 |
| 2023 | 06-04-2023 | 23 | 20 | 3.2 | 205.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.0 |
| 2023 | 06-04-2023 | 23 | 21 | 4.2 | 201.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 1.5 |
| 2023 | 06-04-2023 | 23 | 22 | 2.2 | 128.9 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.5 |
| 2023 | 06-04-2023 | 23 | 23 | 2.5 | 188.9 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.3 |
| 2023 | 06-04-2023 | 23 | 24 | 2.9 | 202.6 | 18.4 | 42.4 | 1021.2 | 0.0 | 0.0 | 1.4 |
| 2023 | 07-04-2023 | 24 | 1 | 2.8 | 232.6 | 18.6 | 55.2 | 1016.2 | 0.0 | 0.0 | 5.1 |
| 2023 | 07-04-2023 | 24 | 2 | 3.0 | 256.2 | 20.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 6.6 |
| 2023 | 07-04-2023 | 24 | 3 | 4.2 | 254.3 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 6.6 |
| 2023 | 07-04-2023 | 24 | 4 | 2.2 | 258.2 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 7.3 |
| 2023 | 07-04-2023 | 24 | 5 | 3.8 | 254.6 | 22.0 | 54.3 | 1020.5 | 572.2 | 0.0 | 8.0 |
| 2023 | 07-04-2023 | 24 | 6 | 2.0 | 188.2 | 22.4 | 62.1 | 1016.8 | 716.5 | 0.0 | 7.3 |
| 2023 | 07-04-2023 | 24 | 7 | 4.5 | 201.6 | 24.0 | 49.8 | 1016.2 | 792.8 | 0.0 | 4.9 |
| 2023 | 07-04-2023 | 24 | 8 | 4.1 | 128.9 | 24.6 | 52.0 | 1015.4 | 795.1 | 0.0 | 2.9 |
| 2023 | 07-04-2023 | 24 | 9 | 3.5 | 188.9 | 26.8 | 57.2 | 1019.2 | 723.2 | 0.0 | 3.1 |
| 2023 | 07-04-2023 | 24 | 10 | 4.6 | 202.6 | 28.4 | 60.2 | 1021.2 | 582.6 | 2.2 | 2.7 |
| 2023 | 07-04-2023 | 24 | 11 | 3.2 | 232.6 | 30.2 | 62.2 | 1020.5 | 723.2 | 0.0 | 4.4 |
| 2023 | 07-04-2023 | 24 | 12 | 4.2 | 256.2 | 31.2 | 63.3 | 1016.8 | 582.6 | 0.0 | 5.1 |
| 2023 | 07-04-2023 | 24 | 13 | 2.2 | 254.3 | 32.2 | 64.1 | 1017.8 | 792.8 | 0.0 | 5.6 |
| 2023 | 07-04-2023 | 24 | 14 | 2.5 | 258.2 | 32.4 | 64.3 | 1019.2 | 795.1 | 0.0 | 5.6 |
| 2023 | 07-04-2023 | 24 | 15 | 2.9 | 254.6 | 31.4 | 63.8 | 1019.8 | 723.2 | 0.0 | 6.1 |
| 2023 | 07-04-2023 | 24 | 16 | 2.8 | 188.2 | 30.2 | 60.2 | 1015.4 | 582.6 | 0.0 | 3.2 |
| 2023 | 07-04-2023 | 24 | 17 | 3.0 | 158.6 | 30.0 | 62.2 | 1019.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 07-04-2023 | 24 | 18 | 4.8 | 168.4 | 29.8 | 61.2 | 1018.9 | 0.0 | 0.0 | 2.5 |
| 2023 | 07-04-2023 | 24 | 19 | 3.8 | 166.5 | 28.6 | 61.2 | 1021.2 | 0.0 | 0.0 | 2.9 |
| 2023 | 07-04-2023 | 24 | 20 | 3.6 | 177.5 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.9 |

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For N.D. International

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 07-04-2023 | 24 | 21 | 3.2 | 152.5 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.4 |
| 2023 | 07-04-2023 | 24 | 22 | 4.6 | 144.3 | 25.3 | 53.2 | 1018.6 | 0.0 | 3.2 | 6.0 |
| 2023 | 07-04-2023 | 24 | 23 | 4.3 | 158.6 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 4.1 |
| 2023 | 07-04-2023 | 24 | 24 | 2.6 | 165.2 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 4.7 |
| 2023 | 08-04-2023 | 25 | 1 | 3.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 6.6 |
| 2023 | 08-04-2023 | 25 | 2 | 4.4 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 8.5 |
| 2023 | 08-04-2023 | 25 | 3 | 2.6 | 92.6 | 20.4 | 48.8 | 1018.6 | 0.0 | 0.0 | 9.9 |
| 2023 | 08-04-2023 | 25 | 4 | 3.6 | 110.2 | 21.8 | 49.2 | 1017.9 | 0.0 | 0.0 | 9.8 |
| 2023 | 08-04-2023 | 25 | 5 | 2.6 | 65.8 | 22.0 | 54.3 | 1020.3 | 372.0 | 0.0 | 8.2 |
| 2023 | 08-04-2023 | 25 | 6 | 4.6 | 168.4 | 22.4 | 62.1 | 1017.2 | 570.3 | 0.0 | 7.2 |
| 2023 | 08-04-2023 | 25 | 7 | 4.6 | 166.5 | 23.2 | 49.8 | 1015.2 | 713.6 | 0.0 | 4.7 |
| 2023 | 08-04-2023 | 25 | 8 | 3.8 | 177.5 | 24.6 | 52.0 | 1014.8 | 789.4 | 0.0 | 2.6 |
| 2023 | 08-04-2023 | 25 | 9 | 2.6 | 152.5 | 26.8 | 57.2 | 1016.2 | 791.0 | 0.0 | 3.8 |
| 2023 | 08-04-2023 | 25 | 10 | 3.2 | 144.3 | 28.4 | 60.2 | 1014.8 | 789.4 | 0.0 | 5.0 |
| 2023 | 08-04-2023 | 25 | 11 | 4.4 | 158.6 | 30.2 | 62.2 | 1016.8 | 791.0 | 0.0 | 5.0 |
| 2023 | 08-04-2023 | 25 | 12 | 2.6 | 165.2 | 31.2 | 63.3 | 1017.8 | 718.5 | 0.0 | 7.4 |
| 2023 | 08-04-2023 | 25 | 13 | 3.6 | 88.6 | 32.2 | 64.1 | 1019.2 | 789.4 | 0.0 | 7.8 |
| 2023 | 08-04-2023 | 25 | 14 | 2.6 | 87.6 | 32.4 | 64.3 | 1019.8 | 791.0 | 0.0 | 6.8 |
| 2023 | 08-04-2023 | 25 | 15 | 4.6 | 92.6 | 31.4 | 63.8 | 1015.4 | 718.5 | 0.0 | 5.3 |
| 2023 | 08-04-2023 | 25 | 16 | 4.6 | 110.2 | 30.2 | 60.2 | 1021.2 | 632.0 | 0.0 | 4.8 |
| 2023 | 08-04-2023 | 25 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 582.3 | 0.0 | 3.8 |
| 2023 | 08-04-2023 | 25 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 4.4 |
| 2023 | 08-04-2023 | 25 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 8.7 |
| 2023 | 08-04-2023 | 25 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 7.4 |
| 2023 | 08-04-2023 | 25 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.5 |
| 2023 | 08-04-2023 | 25 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 08-04-2023 | 25 | 23 | 5.0 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.1 |
| 2023 | 08-04-2023 | 25 | 24 | 5.2 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 09-04-2023 | 26 | 1 | 3.8 | 74.7 | 18.4 | 43.2 | 1014.8 | 0.0 | 0.0 | 9.2 |
| 2023 | 09-04-2023 | 26 | 2 | 5.3 | 67.7 | 18.8 | 46.4 | 1016.8 | 0.0 | 0.0 | 8.7 |
| 2023 | 09-04-2023 | 26 | 3 | 5.6 | 116.6 | 19.6 | 47.1 | 1021.8 | 0.0 | 0.0 | 4.7 |
| 2023 | 09-04-2023 | 26 | 4 | 5.2 | 108.8 | 22.4 | 48.5 | 1012.5 | 0.0 | 0.0 | 3.9 |
| 2023 | 09-04-2023 | 26 | 5 | 5.1 | 88.6 | 23.4 | 46.5 | 1019.2 | 567.7 | 0.0 | 4.6 |
| 2023 | 09-04-2023 | 26 | 6 | 4.2 | 87.6 | 26.8 | 56.8 | 1018.4 | 711.0 | 0.0 | 6.8 |
| 2023 | 09-04-2023 | 26 | 7 | 5.0 | 92.6 | 27.8 | 57.6 | 1018.6 | 786.8 | 0.0 | 5.3 |
| 2023 | 09-04-2023 | 26 | 8 | 3.6 | 110.2 | 28.0 | 56.2 | 1017.9 | 788.9 | 0.0 | 4.8 |
| 2023 | 09-04-2023 | 26 | 9 | 3.1 | 65.8 | 29.2 | 61.2 | 1019.2 | 717.6 | 0.0 | 3.8 |
| 2023 | 09-04-2023 | 26 | 10 | 2.7 | 86.7 | 29.6 | 52.6 | 1015.2 | 578.4 | 0.0 | 4.4 |
| 2023 | 09-04-2023 | 26 | 11 | 2.3 | 75.6 | 30.6 | 62.8 | 1016.8 | 786.8 | 0.0 | 8.7 |

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 09-04-2023 | 26 | 12 | 2.8 | 120.4 | 30.8 | 62.4 | 1017.6 | 788.9 | 0.0 | 7.4 |
| 2023 | 09-04-2023 | 26 | 13 | 5.3 | 98.8 | 31.4 | 68.2 | 1014.8 | 717.6 | 0.0 | 4.5 |
| 2023 | 09-04-2023 | 26 | 14 | 5.6 | 88.6 | 32.8 | 63.8 | 1017.2 | 578.4 | 0.0 | 3.2 |
| 2023 | 09-04-2023 | 26 | 15 | 5.2 | 120.2 | 33.2 | 64.2 | 1015.2 | 482.3 | 0.0 | 3.1 |
| 2023 | 09-04-2023 | 26 | 16 | 5.1 | 88.6 | 32.6 | 65.0 | 1019.2 | 523.3 | 0.0 | 4.8 |
| 2023 | 09-04-2023 | 26 | 17 | 4.2 | 87.6 | 32.0 | 64.0 | 1018.4 | 493.2 | 0.0 | 9.2 |
| 2023 | 09-04-2023 | 26 | 18 | 5.0 | 92.6 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 8.7 |
| 2023 | 09-04-2023 | 26 | 19 | 3.6 | 110.2 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 4.7 |
| 2023 | 09-04-2023 | 26 | 20 | 3.1 | 65.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 3.9 |
| 2023 | 09-04-2023 | 26 | 21 | 2.7 | 86.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 09-04-2023 | 26 | 22 | 2.3 | 75.6 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 1.5 |
| 2023 | 09-04-2023 | 26 | 23 | 2.8 | 120.4 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 1.2 |
| 2023 | 09-04-2023 | 26 | 24 | 2.0 | 98.8 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 1.9 |
| 2023 | 10-04-2023 | 27 | 1 | 2.4 | 92.6 | 19.0 | 55.2 | 1017.2 | 0.0 | 0.0 | 1.4 |
| 2023 | 10-04-2023 | 27 | 2 | 2.6 | 110.2 | 19.4 | 65.2 | 1018.9 | 0.0 | 0.0 | 4.8 |
| 2023 | 10-04-2023 | 27 | 3 | 3.1 | 65.8 | 20.2 | 48.8 | 1021.2 | 0.0 | 0.0 | 9.2 |
| 2023 | 10-04-2023 | 27 | 4 | 2.7 | 86.7 | 21.8 | 49.2 | 1019.8 | 0.0 | 0.0 | 8.7 |
| 2023 | 10-04-2023 | 27 | 5 | 2.3 | 75.6 | 23.2 | 54.3 | 1018.9 | 568.4 | 0.0 | 4.7 |
| 2023 | 10-04-2023 | 27 | 6 | 2.8 | 120.4 | 23.6 | 56.2 | 1021.2 | 680.2 | 0.0 | 3.9 |
| 2023 | 10-04-2023 | 27 | 7 | 2.0 | 98.8 | 23.8 | 49.8 | 1021.6 | 645.8 | 0.0 | 8.7 |
| 2023 | 10-04-2023 | 27 | 8 | 2.4 | 88.6 | 24.6 | 52.0 | 1021.8 | 790.9 | 0.0 | 4.7 |
| 2023 | 10-04-2023 | 27 | 9 | 2.6 | 120.2 | 26.8 | 57.2 | 1012.5 | 625.2 | 0.0 | 3.9 |
| 2023 | 10-04-2023 | 27 | 10 | 3.8 | 92.6 | 28.4 | 60.2 | 1019.2 | 582.9 | 0.0 | 0.0 |
| 2023 | 10-04-2023 | 27 | 11 | 4.1 | 110.2 | 30.8 | 62.2 | 1018.4 | 645.8 | 0.0 | 1.5 |
| 2023 | 10-04-2023 | 27 | 12 | 4.5 | 70.6 | 31.2 | 64.2 | 1018.6 | 790.9 | 0.0 | 1.2 |
| 2023 | 10-04-2023 | 27 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1017.9 | 625.2 | 0.0 | 1.9 |
| 2023 | 10-04-2023 | 27 | 14 | 2.4 | 82.3 | 33.2 | 64.3 | 1019.2 | 582.9 | 0.0 | 1.4 |
| 2023 | 10-04-2023 | 27 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1012.5 | 582.4 | 0.0 | 4.8 |
| 2023 | 10-04-2023 | 27 | 16 | 4.6 | 87.6 | 30.2 | 62.2 | 1021.2 | 496.5 | 0.0 | 9.2 |
| 2023 | 10-04-2023 | 27 | 17 | 3.6 | 92.6 | 30.0 | 62.2 | 1021.6 | 475.5 | 0.0 | 8.7 |
| 2023 | 10-04-2023 | 27 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 4.7 |
| 2023 | 10-04-2023 | 27 | 19 | 4.6 | 65.8 | 28.6 | 60.2 | 1012.5 | 0.0 | 0.0 | 3.9 |
| 2023 | 10-04-2023 | 27 | 20 | 3.6 | 86.7 | 27.6 | 57.2 | 1019.2 | 0.0 | 0.0 | 3.9 |
| 2023 | 10-04-2023 | 27 | 21 | 5.6 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.3 |
| 2023 | 10-04-2023 | 27 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 2.6 |
| 2023 | 10-04-2023 | 27 | 23 | 5.0 | 120.6 | 23.2 | 48.0 | 1017.9 | 0.0 | 0.0 | 1.0 |
| 2023 | 10-04-2023 | 27 | 24 | 4.8 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 1.8 |
| 2023 | 11-04-2023 | 28 | 1 | 4.6 | 74.7 | 18.4 | 43.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 11-04-2023 | 28 | 2 | 3.6 | 67.7 | 18.8 | 46.4 | 1019.2 | 0.0 | 0.0 | 0.0 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 11-04-2023 | 28 | 3 | 5.6 | 66.1 | 19.6 | 47.1 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 11-04-2023 | 28 | 4 | 4.6 | 60.8 | 21.8 | 48.5 | 1018.6 | 0.0 | 0.0 | 2.6 |
| 2023 | 11-04-2023 | 28 | 5 | 5.0 | 87.0 | 23.4 | 46.5 | 1019.2 | 488.7 | 0.0 | 3.6 |
| 2023 | 11-04-2023 | 28 | 6 | 4.8 | 116.6 | 25.6 | 56.8 | 1017.2 | 398.2 | 0.0 | 5.4 |
| 2023 | 11-04-2023 | 28 | 7 | 3.8 | 108.8 | 27.8 | 57.6 | 1015.2 | 511.6 | 0.0 | 5.0 |
| 2023 | 11-04-2023 | 28 | 8 | 4.2 | 88.6 | 28.0 | 56.2 | 1014.8 | 412.2 | 0.0 | 5.4 |
| 2023 | 11-04-2023 | 28 | 9 | 5.6 | 87.6 | 29.2 | 61.2 | 1016.2 | 458.2 | 0.0 | 4.3 |
| 2023 | 11-04-2023 | 28 | 10 | 5.2 | 92.6 | 29.6 | 52.6 | 1018.4 | 385.2 | 0.0 | 5.2 |
| 2023 | 11-04-2023 | 28 | 11 | 2.6 | 110.2 | 30.6 | 62.8 | 1018.6 | 285.3 | 0.0 | 7.2 |
| 2023 | 11-04-2023 | 28 | 12 | 4.2 | 65.8 | 31.0 | 62.4 | 1019.2 | 488.7 | 0.0 | 2.6 |
| 2023 | 11-04-2023 | 28 | 13 | 5.0 | 86.7 | 31.4 | 68.2 | 1017.2 | 398.2 | 0.0 | 2.4 |
| 2023 | 11-04-2023 | 28 | 14 | 4.2 | 75.6 | 32.8 | 63.8 | 1015.2 | 511.6 | 0.0 | 3.4 |
| 2023 | 11-04-2023 | 28 | 15 | 2.6 | 120.4 | 33.2 | 64.2 | 1014.8 | 412.2 | 0.0 | 3.2 |
| 2023 | 11-04-2023 | 28 | 16 | 4.8 | 88.6 | 32.8 | 65.0 | 1016.2 | 542.8 | 0.0 | 4.2 |
| 2023 | 11-04-2023 | 28 | 17 | 4.1 | 87.6 | 32.0 | 64.0 | 1014.8 | 489.8 | 0.0 | 5.4 |
| 2023 | 11-04-2023 | 28 | 18 | 4.5 | 92.6 | 31.2 | 62.3 | 1016.8 | 456.2 | 0.0 | 4.3 |
| 2023 | 11-04-2023 | 28 | 19 | 2.6 | 110.2 | 30.2 | 62.2 | 1017.8 | 0.0 | 0.0 | 5.2 |
| 2023 | 11-04-2023 | 28 | 20 | 6.3 | 65.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 7.2 |
| 2023 | 11-04-2023 | 28 | 21 | 6.2 | 86.7 | 28.2 | 57.6 | 1019.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 11-04-2023 | 28 | 22 | 6.2 | 75.6 | 27.1 | 54.2 | 1015.4 | 0.0 | 0.0 | 4.2 |
| 2023 | 11-04-2023 | 28 | 23 | 4.2 | 120.4 | 26.4 | 52.6 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 11-04-2023 | 28 | 24 | 5.2 | 98.8 | 26.0 | 57.5 | 1018.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 12-04-2023 | 29 | 1 | 2.6 | 120.2 | 19.2 | 55.2 | 1021.2 | 0.0 | 0.0 | 8.4 |
| 2023 | 12-04-2023 | 29 | 2 | 2.8 | 120.2 | 19.4 | 65.2 | 1019.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 12-04-2023 | 29 | 3 | 3.2 | 102.2 | 20.2 | 43.2 | 1018.9 | 0.0 | 0.0 | 5.2 |
| 2023 | 12-04-2023 | 29 | 4 | 3.6 | 110.2 | 21.8 | 49.2 | 1017.9 | 0.0 | 0.0 | 8.2 |
| 2023 | 12-04-2023 | 29 | 5 | 4.2 | 84.6 | 23.2 | 54.3 | 1015.2 | 452.7 | 0.0 | 4.8 |
| 2023 | 12-04-2023 | 29 | 6 | 4.6 | 102.2 | 23.4 | 56.2 | 1017.2 | 468.2 | 0.0 | 7.2 |
| 2023 | 12-04-2023 | 29 | 7 | 2.8 | 90.2 | 24.2 | 49.8 | 1015.2 | 452.2 | 0.0 | 7.4 |
| 2023 | 12-04-2023 | 29 | 8 | 3.6 | 87.6 | 24.6 | 52.0 | 1014.8 | 423.1 | 0.0 | 6.2 |
| 2023 | 12-04-2023 | 29 | 9 | 2.6 | 98.2 | 26.8 | 57.2 | 1016.2 | 540.2 | 0.0 | 4.2 |
| 2023 | 12-04-2023 | 29 | 10 | 2.8 | 110.2 | 28.4 | 61.0 | 1014.8 | 633.2 | 0.0 | 4.2 |
| 2023 | 12-04-2023 | 29 | 11 | 3.2 | 135.2 | 30.2 | 62.2 | 1016.8 | 623.2 | 0.0 | 4.6 |
| 2023 | 12-04-2023 | 29 | 12 | 3.6 | 186.2 | 31.2 | 64.2 | 1017.8 | 453.2 | 0.0 | 2.6 |
| 2023 | 12-04-2023 | 29 | 13 | 4.2 | 75.6 | 33.2 | 64.1 | 1019.2 | 540.2 | 0.0 | 2.9 |
| 2023 | 12-04-2023 | 29 | 14 | 4.6 | 102.2 | 33.8 | 67.0 | 1019.8 | 450.2 | 0.0 | 2.8 |
| 2023 | 12-04-2023 | 29 | 15 | 2.8 | 132.2 | 32.2 | 63.8 | 1015.4 | 465.8 | 0.0 | 2.0 |
| 2023 | 12-04-2023 | 29 | 16 | 3.6 | 120.2 | 31.2 | 62.2 | 1016.5 | 497.2 | 0.0 | 2.2 |
| 2023 | 12-04-2023 | 29 | 17 | 2.6 | 98.2 | 30.0 | 62.2 | 1018.9 | 512.3 | 0.0 | 2.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 12-04-2023 | 29 | 18 | 3.9 | 110.2 | 29.8 | 61.2 | 1021.2 | 487.9 | 0.0 | 0.0 |
| 2023 | 12-04-2023 | 29 | 19 | 4.8 | 135.2 | 28.6 | 61.0 | 1019.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 12-04-2023 | 29 | 20 | 2.7 | 186.2 | 27.2 | 58.0 | 1018.9 | 0.0 | 0.0 | 3.6 |
| 2023 | 12-04-2023 | 29 | 21 | 2.5 | 75.6 | 26.5 | 57.2 | 1021.2 | 0.0 | 0.0 | 3.2 |
| 2023 | 12-04-2023 | 29 | 22 | 2.6 | 102.2 | 25.4 | 53.2 | 1021.6 | 0.0 | 0.0 | 3.7 |
| 2023 | 12-04-2023 | 29 | 23 | 3.0 | 132.2 | 24.2 | 48.0 | 1021.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 12-04-2023 | 29 | 24 | 2.8 | 120.2 | 23.2 | 42.4 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 1 | 4.2 | 89.2 | 18.6 | 54.4 | 1019.2 | 0.0 | 0.0 | 3.4 |
| 2023 | 13-04-2023 | 30 | 2 | 4.3 | 88.4 | 19.0 | 55.2 | 1018.4 | 0.0 | 0.0 | 8.1 |
| 2023 | 13-04-2023 | 30 | 3 | 6.1 | 86.5 | 19.4 | 65.2 | 1018.6 | 0.0 | 0.0 | 8.6 |
| 2023 | 13-04-2023 | 30 | 4 | 6.2 | 83.5 | 20.4 | 48.8 | 1017.9 | 0.0 | 0.0 | 7.6 |
| 2023 | 13-04-2023 | 30 | 5 | 6.2 | 54.3 | 21.8 | 49.2 | 1019.2 | 458.6 | 0.0 | 7.0 |
| 2023 | 13-04-2023 | 30 | 6 | 4.8 | 33.8 | 22.0 | 54.3 | 1014.8 | 654.2 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 7 | 5.6 | 24.9 | 22.4 | 62.1 | 1016.8 | 756.1 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 8 | 2.3 | 54.8 | 23.2 | 49.8 | 1017.8 | 238.1 | 0.0 | 8.4 |
| 2023 | 13-04-2023 | 30 | 9 | 4.6 | 52.6 | 25.4 | 52.0 | 1019.2 | 388.2 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 10 | 4.2 | 39.3 | 27.4 | 57.2 | 1019.8 | 682.6 | 0.0 | 6.4 |
| 2023 | 13-04-2023 | 30 | 11 | 4.3 | 56.8 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 6.4 |
| 2023 | 13-04-2023 | 30 | 12 | 6.1 | 88.2 | 30.8 | 62.2 | 1016.5 | 652.1 | 0.0 | 4.9 |
| 2023 | 13-04-2023 | 30 | 13 | 6.2 | 74.7 | 31.2 | 63.3 | 1018.9 | 530.2 | 0.0 | 2.4 |
| 2023 | 13-04-2023 | 30 | 14 | 6.2 | 68.4 | 32.2 | 64.1 | 1021.2 | 386.0 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 15 | 4.8 | 73.7 | 32.4 | 64.3 | 1019.8 | 359.4 | 0.0 | 2.1 |
| 2023 | 13-04-2023 | 30 | 16 | 5.6 | 65.9 | 31.4 | 63.8 | 1018.9 | 489.7 | 0.0 | 2.0 |
| 2023 | 13-04-2023 | 30 | 17 | 2.3 | 66.1 | 30.2 | 60.2 | 1021.2 | 532.4 | 0.0 | 2.2 |
| 2023 | 13-04-2023 | 30 | 18 | 4.6 | 68.4 | 30.0 | 62.2 | 1021.6 | 487.2 | 0.0 | 2.4 |
| 2023 | 13-04-2023 | 30 | 19 | 4.8 | 49.8 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 20 | 6.5 | 50.9 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 5.2 |
| 2023 | 13-04-2023 | 30 | 21 | 4.6 | 66.4 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 13-04-2023 | 30 | 22 | 5.8 | 88.9 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 13-04-2023 | 30 | 23 | 6.2 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-04-2023 | 30 | 24 | 6.3 | 102.6 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 4.6 |
| 2023 | 14-04-2023 | 31 | 1 | 4.8 | 232.6 | 18.6 | 55.2 | 1016.2 | 0.0 | 0.0 | 5.1 |
| 2023 | 14-04-2023 | 31 | 2 | 4.8 | 256.2 | 20.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 6.6 |
| 2023 | 14-04-2023 | 31 | 3 | 6.5 | 254.3 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 6.6 |
| 2023 | 14-04-2023 | 31 | 4 | 4.6 | 258.2 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 7.3 |
| 2023 | 14-04-2023 | 31 | 5 | 5.8 | 254.6 | 22.0 | 54.3 | 1020.5 | 483.2 | 0.0 | 8.0 |
| 2023 | 14-04-2023 | 31 | 6 | 6.2 | 188.2 | 22.4 | 62.1 | 1016.8 | 546.3 | 0.0 | 7.3 |
| 2023 | 14-04-2023 | 31 | 7 | 6.3 | 158.6 | 24.0 | 49.8 | 1017.8 | 455.9 | 0.0 | 4.9 |
| 2023 | 14-04-2023 | 31 | 8 | 4.8 | 168.4 | 24.6 | 52.0 | 1019.2 | 489.6 | 0.0 | 2.9 |

For N.D. International

K.P. De - CEO

Authorised Signatory

N.D. INTERNATIONAL KOLKATA

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 14-04-2023 | 31 | 9 | 4.8 | 166.5 | 26.8 | 57.2 | 1019.8 | 572.2 | 0.0 | 3.1 |
| 2023 | 14-04-2023 | 31 | 10 | 6.2 | 177.5 | 28.4 | 60.2 | 1015.4 | 716.5 | 0.0 | 2.7 |
| 2023 | 14-04-2023 | 31 | 11 | 6.2 | 152.5 | 30.2 | 62.2 | 1019.2 | 792.8 | 0.0 | 4.4 |
| 2023 | 14-04-2023 | 31 | 12 | 6.3 | 144.3 | 31.2 | 63.3 | 1018.9 | 795.1 | 0.0 | 5.1 |
| 2023 | 14-04-2023 | 31 | 13 | 5.6 | 158.6 | 32.2 | 64.1 | 1021.2 | 723.2 | 0.0 | 5.6 |
| 2023 | 14-04-2023 | 31 | 14 | 6.1 | 165.2 | 32.4 | 64.3 | 1019.8 | 582.6 | 0.0 | 5.6 |
| 2023 | 14-04-2023 | 31 | 15 | 4.8 | 188.6 | 31.4 | 63.8 | 1018.9 | 489.2 | 0.0 | 6.1 |
| 2023 | 14-04-2023 | 31 | 16 | 3.5 | 182.6 | 30.2 | 60.2 | 1021.2 | 358.2 | 0.0 | 3.2 |
| 2023 | 14-04-2023 | 31 | 17 | 4.6 | 128.9 | 30.0 | 62.2 | 1021.6 | 346.2 | 0.0 | 2.4 |
| 2023 | 14-04-2023 | 31 | 18 | 3.2 | 188.9 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 2.5 |
| 2023 | 14-04-2023 | 31 | 19 | 4.2 | 189.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 2.9 |
| 2023 | 14-04-2023 | 31 | 20 | 2.2 | 134.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.9 |
| 2023 | 14-04-2023 | 31 | 21 | 2.5 | 198.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.4 |
| 2023 | 14-04-2023 | 31 | 22 | 4.5 | 125.8 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 6.0 |
| 2023 | 14-04-2023 | 31 | 23 | 4.1 | 164.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 4.1 |
| 2023 | 14-04-2023 | 31 | 24 | 3.2 | 188.6 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 4.7 |
| 2023 | 15-04-2023 | 1 | 1 | 3.8 | 74.7 | 18.6 | 43.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 15-04-2023 | 1 | 2 | 4.2 | 67.7 | 18.8 | 46.4 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 15-04-2023 | 1 | 3 | 5.6 | 66.1 | 19.6 | 47.1 | 1018.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 15-04-2023 | 1 | 4 | 5.2 | 40.7 | 22.4 | 48.5 | 1018.6 | 0.0 | 0.0 | 2.6 |
| 2023 | 15-04-2023 | 1 | 5 | 2.6 | 84.2 | 23.4 | 46.5 | 1019.2 | 412.6 | 0.0 | 3.6 |
| 2023 | 15-04-2023 | 1 | 6 | 4.2 | 124.2 | 26.8 | 56.8 | 1017.2 | 452.2 | 0.0 | 5.4 |
| 2023 | 15-04-2023 | 1 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1015.2 | 423.0 | 0.0 | 5.6 |
| 2023 | 15-04-2023 | 1 | 8 | 4.2 | 17.3 | 28.0 | 56.2 | 1014.8 | 326.2 | 0.0 | 4.8 |
| 2023 | 15-04-2023 | 1 | 9 | 2.6 | 41.7 | 29.2 | 61.2 | 1016.2 | 554.2 | 0.0 | 4.3 |
| 2023 | 15-04-2023 | 1 | 10 | 2.1 | 49.8 | 29.6 | 52.6 | 1014.8 | 385.2 | 0.0 | 5.2 |
| 2023 | 15-04-2023 | 1 | 11 | 2.3 | 62.6 | 30.6 | 62.8 | 1016.8 | 322.2 | 0.0 | 4.8 |
| 2023 | 15-04-2023 | 1 | 12 | 2.8 | 60.8 | 30.8 | 62.4 | 1017.8 | 488.7 | 0.0 | 2.6 |
| 2023 | 15-04-2023 | 1 | 13 | 3.2 | 87.0 | 31.4 | 68.2 | 1019.2 | 402.2 | 0.0 | 2.4 |
| 2023 | 15-04-2023 | 1 | 14 | 6.2 | 116.6 | 32.8 | 63.8 | 1019.8 | 511.6 | 0.0 | 3.4 |
| 2023 | 15-04-2023 | 1 | 15 | 2.6 | 108.8 | 33.2 | 64.2 | 1015.4 | 412.2 | 0.0 | 3.2 |
| 2023 | 15-04-2023 | 1 | 16 | 4.8 | 88.6 | 32.6 | 65.0 | 1019.2 | 388.4 | 0.0 | 4.2 |
| 2023 | 15-04-2023 | 1 | 17 | 4.1 | 87.6 | 32.0 | 64.0 | 1018.9 | 442.2 | 0.0 | 2.4 |
| 2023 | 15-04-2023 | 1 | 18 | 4.5 | 92.6 | 31.2 | 62.3 | 1021.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 15-04-2023 | 1 | 19 | 2.6 | 110.2 | 29.8 | 62.2 | 1019.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 15-04-2023 | 1 | 20 | 6.3 | 65.8 | 29.2 | 61.2 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 15-04-2023 | 1 | 21 | 6.2 | 86.7 | 27.6 | 57.6 | 1021.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 15-04-2023 | 1 | 22 | 6.2 | 75.6 | 27.1 | 54.2 | 1021.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 15-04-2023 | 1 | 23 | 4.2 | 120.4 | 26.4 | 52.6 | 1020.4 | 0.0 | 0.0 | 4.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 15-04-2023 | 1 | 24 | 5.2 | 98.8 | 26.0 | 57.5 | 1019.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 16-04-2023 | 2 | 1 | 4.8 | 66.2 | 18.0 | 43.2 | 1015.4 | 0.0 | 0.0 | 2.6 |
| 2023 | 16-04-2023 | 2 | 2 | 5.2 | 62.2 | 19.2 | 46.4 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 16-04-2023 | 2 | 3 | 4.6 | 54.1 | 19.6 | 47.1 | 1018.9 | 0.0 | 0.0 | 5.3 |
| 2023 | 16-04-2023 | 2 | 4 | 5.2 | 48.6 | 22.4 | 48.5 | 1021.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 16-04-2023 | 2 | 5 | 4.2 | 47.0 | 23.4 | 46.5 | 1019.8 | 422.3 | 0.0 | 5.8 |
| 2023 | 16-04-2023 | 2 | 6 | 3.5 | 73.7 | 26.8 | 56.8 | 1018.9 | 423.2 | 0.0 | 5.7 |
| 2023 | 16-04-2023 | 2 | 7 | 8.2 | 65.9 | 27.8 | 57.6 | 1015.2 | 285.2 | 0.0 | 6.2 |
| 2023 | 16-04-2023 | 2 | 8 | 5.2 | 66.1 | 28.0 | 56.2 | 1016.8 | 326.2 | 0.0 | 4.6 |
| 2023 | 16-04-2023 | 2 | 9 | 6.0 | 68.4 | 29.2 | 61.2 | 1017.6 | 458.2 | 0.0 | 5.2 |
| 2023 | 16-04-2023 | 2 | 10 | 4.8 | 49.8 | 29.6 | 52.6 | 1014.8 | 452.2 | 0.0 | 6.4 |
| 2023 | 16-04-2023 | 2 | 11 | 3.8 | 50.9 | 30.6 | 62.8 | 1012.2 | 488.9 | 0.0 | 4.6 |
| 2023 | 16-04-2023 | 2 | 12 | 3.6 | 66.4 | 30.8 | 62.4 | 1013.2 | 488.7 | 0.0 | 5.8 |
| 2023 | 16-04-2023 | 2 | 13 | 5.2 | 88.6 | 31.4 | 68.2 | 1012.8 | 652.2 | 0.0 | 7.2 |
| 2023 | 16-04-2023 | 2 | 14 | 4.4 | 78.5 | 32.8 | 63.8 | 1012.9 | 542.6 | 0.0 | 7.6 |
| 2023 | 16-04-2023 | 2 | 15 | 4.3 | 76.4 | 33.2 | 64.2 | 1012.6 | 482.2 | 0.0 | 3.8 |
| 2023 | 16-04-2023 | 2 | 16 | 6.0 | 72.6 | 32.6 | 65.0 | 1012.7 | 423.2 | 0.0 | 5.9 |
| 2023 | 16-04-2023 | 2 | 17 | 4.8 | 66.8 | 32.0 | 64.0 | 1017.6 | 325.2 | 0.0 | 3.4 |
| 2023 | 16-04-2023 | 2 | 18 | 3.8 | 64.8 | 31.2 | 62.3 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 16-04-2023 | 2 | 19 | 3.6 | 56.8 | 29.8 | 62.2 | 1012.2 | 0.0 | 0.0 | 8.4 |
| 2023 | 16-04-2023 | 2 | 20 | 5.2 | 68.5 | 29.2 | 61.2 | 1013.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 16-04-2023 | 2 | 21 | 4.4 | 64.7 | 27.6 | 57.6 | 1012.8 | 0.0 | 0.0 | 7.4 |
| 2023 | 16-04-2023 | 2 | 22 | 4.3 | 68.4 | 27.1 | 54.2 | 1012.9 | 0.0 | 0.0 | 5.4 |
| 2023 | 16-04-2023 | 2 | 23 | 2.6 | 98.2 | 26.4 | 52.6 | 1012.6 | 0.0 | 0.0 | 5.6 |
| 2023 | 16-04-2023 | 2 | 24 | 2.4 | 88.4 | 26.0 | 57.5 | 1012.7 | 0.0 | 0.0 | 4.5 |
| 2023 | 17-04-2023 | 3 | 1 | 2.1 | 64.9 | 18.4 | 53.8 | 1012.8 | 0.0 | 0.0 | 3.7 |
| 2023 | 17-04-2023 | 3 | 2 | 2.6 | 49.8 | 19.2 | 55.2 | 1015.8 | 0.0 | 0.0 | 7.2 |
| 2023 | 17-04-2023 | 3 | 3 | 2.6 | 53.5 | 19.4 | 65.2 | 1016.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 17-04-2023 | 3 | 4 | 2.4 | 57.1 | 20.4 | 48.8 | 1017.4 | 510.2 | 0.0 | 0.0 |
| 2023 | 17-04-2023 | 3 | 5 | 2.4 | 55.1 | 21.8 | 49.2 | 1016.8 | 489.3 | 0.0 | 0.0 |
| 2023 | 17-04-2023 | 3 | 6 | 1.2 | 49.6 | 22.0 | 54.3 | 1016.9 | 573.1 | 0.0 | 0.0 |
| 2023 | 17-04-2023 | 3 | 7 | 1.5 | 43.2 | 22.4 | 62.1 | 1012.8 | 452.2 | 0.0 | 0.2 |
| 2023 | 17-04-2023 | 3 | 8 | 1.8 | 52.0 | 23.2 | 49.8 | 1015.8 | 328.2 | 0.0 | 0.3 |
| 2023 | 17-04-2023 | 3 | 9 | 1.1 | 82.7 | 24.6 | 52.0 | 1016.2 | 423.1 | 0.0 | 0.4 |
| 2023 | 17-04-2023 | 3 | 10 | 1.6 | 74.7 | 27.8 | 57.2 | 1017.4 | 580.2 | 0.0 | 1.3 |
| 2023 | 17-04-2023 | 3 | 11 | 1.2 | 67.7 | 28.2 | 60.2 | 1016.8 | 630.2 | 0.0 | 1.4 |
| 2023 | 17-04-2023 | 3 | 12 | 1.1 | 66.1 | 28.8 | 62.2 | 1016.9 | 488.2 | 0.0 | 0.9 |
| 2023 | 17-04-2023 | 3 | 13 | 2.2 | 40.7 | 29.2 | 63.3 | 1015.8 | 652.0 | 0.0 | 1.4 |
| 2023 | 17-04-2023 | 3 | 14 | 1.8 | 84.2 | 33.8 | 64.1 | 1017.2 | 488.5 | 0.0 | 2.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 17-04-2023 | 3 | 15 | 1.3 | 124.2 | 33.2 | 64.3 | 1015.2 | 284.0 | 0.0 | 1.8 |
| 2023 | 17-04-2023 | 3 | 16 | 1.4 | 4.9 | 31.4 | 63.8 | 1014.8 | 632.0 | 0.0 | 0.7 |
| 2023 | 17-04-2023 | 3 | 17 | 1.4 | 17.3 | 30.2 | 60.2 | 1016.2 | 540.2 | 0.0 | 1.6 |
| 2023 | 17-04-2023 | 3 | 18 | 1.9 | 41.7 | 30.0 | 62.2 | 1014.8 | 0.0 | 0.0 | 2.6 |
| 2023 | 17-04-2023 | 3 | 19 | 2.4 | 49.8 | 29.8 | 61.2 | 1016.8 | 0.0 | 0.0 | 0.9 |
| 2023 | 17-04-2023 | 3 | 20 | 2.4 | 62.6 | 28.6 | 61.2 | 1017.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 17-04-2023 | 3 | 21 | 2.2 | 60.8 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 17-04-2023 | 3 | 22 | 3.4 | 87.0 | 26.5 | 57.2 | 1014.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 17-04-2023 | 3 | 23 | 2.8 | 116.6 | 25.3 | 53.2 | 1015.4 | 0.0 | 0.0 | 6.6 |
| 2023 | 17-04-2023 | 3 | 24 | 2.4 | 108.8 | 23.2 | 48.2 | 1016.5 | 0.0 | 0.0 | 1.7 |
| 2023 | 18-04-2023 | 4 | 1 | 5.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 2 | 6.0 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 2.4 |
| 2023 | 18-04-2023 | 4 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 18-04-2023 | 4 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 6 | 5.2 | 70.6 | 22.4 | 62.1 | 1016.8 | 451.0 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 7 | 4.6 | 84.6 | 23.2 | 49.8 | 1017.8 | 580.3 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 8 | 4.3 | 82.3 | 24.6 | 52.0 | 1019.2 | 423.1 | 0.0 | 0.0 |
| 2023 | 18-04-2023 | 4 | 9 | 2.6 | 90.2 | 26.8 | 57.2 | 1019.8 | 560.2 | 0.0 | 4.8 |
| 2023 | 18-04-2023 | 4 | 10 | 3.4 | 87.6 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 4.2 |
| 2023 | 18-04-2023 | 4 | 11 | 2.1 | 92.6 | 30.2 | 62.2 | 1016.5 | 654.3 | 0.0 | 3.2 |
| 2023 | 18-04-2023 | 4 | 12 | 2.6 | 110.2 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 4.2 |
| 2023 | 18-04-2023 | 4 | 13 | 3.6 | 65.8 | 32.2 | 64.1 | 1021.2 | 542.0 | 0.0 | 2.8 |
| 2023 | 18-04-2023 | 4 | 14 | 2.4 | 86.7 | 32.4 | 64.3 | 1019.8 | 386.2 | 0.0 | 3.2 |
| 2023 | 18-04-2023 | 4 | 15 | 4.6 | 75.6 | 31.4 | 63.8 | 1018.9 | 452.2 | 0.0 | 2.2 |
| 2023 | 18-04-2023 | 4 | 16 | 4.6 | 99.2 | 30.2 | 60.2 | 1021.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 18-04-2023 | 4 | 17 | 3.8 | 48.5 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 1.6 |
| 2023 | 18-04-2023 | 4 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 2.6 |
| 2023 | 18-04-2023 | 4 | 19 | 4.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 3.8 |
| 2023 | 18-04-2023 | 4 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 3.0 |
| 2023 | 18-04-2023 | 4 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 1.5 |
| 2023 | 18-04-2023 | 4 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 2.4 |
| 2023 | 18-04-2023 | 4 | 23 | 5.0 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 2.3 |
| 2023 | 18-04-2023 | 4 | 24 | 4.8 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 1.4 |
| 2023 | 19-04-2023 | 5 | 1 | 3.8 | 74.7 | 18.0 | 43.2 | 1014.8 | 0.0 | 0.0 | 5.1 |
| 2023 | 19-04-2023 | 5 | 2 | 5.3 | 67.7 | 19.0 | 46.4 | 1016.8 | 0.0 | 0.0 | 6.6 |
| 2023 | 19-04-2023 | 5 | 3 | 5.6 | 48.5 | 19.6 | 47.1 | 1017.8 | 0.0 | 0.0 | 6.6 |
| 2023 | 19-04-2023 | 5 | 4 | 5.2 | 110.2 | 22.4 | 48.5 | 1019.2 | 0.0 | 0.0 | 7.3 |
| 2023 | 19-04-2023 | 5 | 5 | 5.1 | 65.8 | 23.4 | 46.5 | 1019.8 | 542.2 | 0.0 | 8.0 |

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 19-04-2023 | 5 | 6 | 4.9 | 86.7 | 26.8 | 56.8 | 1015.4 | 580.2 | 0.0 | 7.3 |
| 2023 | 19-04-2023 | 5 | 7 | 5.0 | 75.6 | 27.8 | 57.6 | 1016.5 | 620.2 | 0.0 | 4.9 |
| 2023 | 19-04-2023 | 5 | 8 | 4.8 | 99.2 | 28.0 | 56.2 | 1018.9 | 264.2 | 0.0 | 2.9 |
| 2023 | 19-04-2023 | 5 | 9 | 4.5 | 48.5 | 29.2 | 61.2 | 1021.2 | 458.2 | 0.0 | 3.1 |
| 2023 | 19-04-2023 | 5 | 10 | 2.8 | 68.5 | 29.6 | 52.6 | 1019.8 | 524.2 | 0.0 | 2.7 |
| 2023 | 19-04-2023 | 5 | 11 | 6.3 | 74.7 | 30.6 | 62.8 | 1018.9 | 488.9 | 0.0 | 4.4 |
| 2023 | 19-04-2023 | 5 | 12 | 4.5 | 67.7 | 30.8 | 62.4 | 1021.2 | 530.2 | 0.0 | 5.1 |
| 2023 | 19-04-2023 | 5 | 13 | 2.8 | 66.1 | 31.4 | 68.2 | 1021.6 | 488.2 | 0.0 | 5.6 |
| 2023 | 19-04-2023 | 5 | 14 | 2.6 | 40.7 | 32.8 | 63.8 | 1021.8 | 482.2 | 0.0 | 5.6 |
| 2023 | 19-04-2023 | 5 | 15 | 3.2 | 84.2 | 33.2 | 64.2 | 1012.5 | 412.2 | 0.0 | 6.1 |
| 2023 | 19-04-2023 | 5 | 16 | 4.6 | 88.6 | 32.6 | 65.0 | 1019.2 | 388.2 | 0.0 | 3.2 |
| 2023 | 19-04-2023 | 5 | 17 | 4.8 | 87.6 | 32.0 | 64.0 | 1018.4 | 382.2 | 0.0 | 2.4 |
| 2023 | 19-04-2023 | 5 | 18 | 3.0 | 92.6 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 2.5 |
| 2023 | 19-04-2023 | 5 | 19 | 3.9* | 110.2 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 2.9 |
| 2023 | 19-04-2023 | 5 | 20 | 6.3 | 65.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 3.9 |
| 2023 | 19-04-2023 | 5 | 21 | 6.6 | 86.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 4.4 |
| 2023 | 19-04-2023 | 5 | 22 | 6.5 | 75.6 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 6.0 |
| 2023 | 19-04-2023 | 5 | 23 | 6.1 | 120.4 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 4.1 |
| 2023 | 19-04-2023 | 5 | 24 | 5.8 | 98.8 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 4.7 |
| 2023 | 20-04-2023 | 6 | 1 | 5.2 | 88.6 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 6.6 |
| 2023 | 20-04-2023 | 6 | 2 | 6.0 | 120.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 8.5 |
| 2023 | 20-04-2023 | 6 | 3 | 4.8 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 6.6 |
| 2023 | 20-04-2023 | 6 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 20-04-2023 | 6 | 5 | 4.4 | 65.8 | 22.2 | 54.3 | 1014.8 | 264.2 | 0.0 | 6.2 |
| 2023 | 20-04-2023 | 6 | 6 | 5.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 458.2 | 0.0 | 4.2 |
| 2023 | 20-04-2023 | 6 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 524.2 | 0.0 | 5.2 |
| 2023 | 20-04-2023 | 6 | 8 | 4.3 | 99.2 | 24.6 | 52.0 | 1019.2 | 488.9 | 0.0 | 3.6 |
| 2023 | 20-04-2023 | 6 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1019.8 | 530.2 | 0.0 | 4.8 |
| 2023 | 20-04-2023 | 6 | 10 | 3.2 | 140.6 | 28.4 | 60.2 | 1015.4 | 488.2 | 0.0 | 3.2 |
| 2023 | 20-04-2023 | 6 | 11 | 2.1 | 72.8 | 30.2 | 62.2 | 1016.5 | 482.2 | 0.0 | 4.6 |
| 2023 | 20-04-2023 | 6 | 12 | 2.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 412.2 | 0.0 | 3.4 |
| 2023 | 20-04-2023 | 6 | 13 | 3.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 280.6 | 0.0 | 2.6 |
| 2023 | 20-04-2023 | 6 | 14 | 2.4 | 82.3 | 33.2 | 63.8 | 1019.8 | 382.2 | 0.0 | 8.2 |
| 2023 | 20-04-2023 | 6 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 356.2 | 0.0 | 6.1 |
| 2023 | 20-04-2023 | 6 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 388.6 | 0.0 | 6.7 |
| 2023 | 20-04-2023 | 6 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 459.2 | 0.0 | 3.8 |
| 2023 | 20-04-2023 | 6 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 358.2 | 0.0 | 4.4 |
| 2023 | 20-04-2023 | 6 | 19 | 4.6 | 65.8 | 28.6 | 61.2 | 1016.2 | 0.0 | 0.0 | 8.7 |
| 2023 | 20-04-2023 | 6 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1014.8 | 0.0 | 0.0 | 7.4 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 20-04-2023 | 6 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1016.8 | 0.0 | 0.0 | 4.5 |
| 2023 | 20-04-2023 | 6 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1017.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 20-04-2023 | 6 | 23 | 5.0 | 120.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 3.1 |
| 2023 | 20-04-2023 | 6 | 24 | 4.8 | 68.5 | 18.4 | 42.4 | 1019.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 21-04-2023 | 7 | 1 | 4.3 | 89.2 | 18.6 | 54.4 | 1015.4 | 0.0 | 0.0 | 9.2 |
| 2023 | 21-04-2023 | 7 | 2 | 4.6 | 88.4 | 19.0 | 55.2 | 1016.5 | 0.0 | 0.0 | 8.7 |
| 2023 | 21-04-2023 | 7 | 3 | 5.2 | 86.5 | 20.0 | 65.2 | 1015.2 | 0.0 | 0.0 | 4.7 |
| 2023 | 21-04-2023 | 7 | 4 | 4.6 | 83.5 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 3.9 |
| 2023 | 21-04-2023 | 7 | 5 | 5.0 | 54.3 | 21.8 | 49.2 | 1016.2 | 548.9 | 0.0 | 4.8 |
| 2023 | 21-04-2023 | 7 | 6 | 4.8 | 33.8 | 22.0 | 54.3 | 1014.8 | 682.6 | 0.0 | 6.2 |
| 2023 | 21-04-2023 | 7 | 7 | 4.3 | 24.9 | 22.8 | 62.1 | 1016.8 | 633.2 | 0.0 | 4.2 |
| 2023 | 21-04-2023 | 7 | 8 | 4.6 | 54.8 | 23.2 | 49.8 | 1017.8 | 652.3 | 0.0 | 5.2 |
| 2023 | 21-04-2023 | 7 | 9 | 6.1 | 52.6 | 25.8 | 52.0 | 1019.2 | 453.2 | 0.0 | 3.6 |
| 2023 | 21-04-2023 | 7 | 10 | 6.3 | 39.3 | 26.8 | 57.2 | 1019.8 | 488.5 | 0.0 | 4.8 |
| 2023 | 21-04-2023 | 7 | 11 | 6.4 | 56.8 | 29.2 | 61.0 | 1015.4 | 292.3 | 0.0 | 3.2 |
| 2023 | 21-04-2023 | 7 | 12 | 6.5 | 88.2 | 30.8 | 62.2 | 1016.5 | 652.3 | 0.0 | 4.6 |
| 2023 | 21-04-2023 | 7 | 13 | 5.5 | 74.7 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 3.4 |
| 2023 | 21-04-2023 | 7 | 14 | 4.6 | 68.4 | 33.2 | 67.0 | 1021.2 | 488.5 | 0.0 | 2.6 |
| 2023 | 21-04-2023 | 7 | 15 | 4.3 | 73.7 | 33.4 | 64.3 | 1019.8 | 385.0 | 0.0 | 8.2 |
| 2023 | 21-04-2023 | 7 | 16 | 4.8 | 65.9 | 32.8 | 65.0 | 1018.9 | 358.2 | 0.0 | 6.1 |
| 2023 | 21-04-2023 | 7 | 17 | 6.9 | 66.1 | 31.2 | 60.2 | 1021.2 | 452.6 | 0.0 | 6.7 |
| 2023 | 21-04-2023 | 7 | 18 | 6.4 | 68.4 | 30.2 | 62.2 | 1021.6 | 0.0 | 0.0 | 3.8 |
| 2023 | 21-04-2023 | 7 | 19 | 6.8 | 49.8 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 4.4 |
| 2023 | 21-04-2023 | 7 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 8.7 |
| 2023 | 21-04-2023 | 7 | 21 | 5.6 | 66.4 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 7.4 |
| 2023 | 21-04-2023 | 7 | 22 | 6.2 | 88.9 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.4 |
| 2023 | 21-04-2023 | 7 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 21-04-2023 | 7 | 24 | 6.3 | 366.2 | 23.2 | 48.2 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 22-04-2023 | 8 | 1 | 4.8 | 334.5 | 18.8 | 55.2 | 1016.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 22-04-2023 | 8 | 2 | 5.8 | 258.2 | 19.4 | 65.2 | 1014.8 | 0.0 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 3 | 6.2 | 254.6 | 20.4 | 48.8 | 1016.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 22-04-2023 | 8 | 4 | 4.8 | 88.4 | 21.8 | 49.2 | 1017.8 | 0.0 | 0.0 | 4.5 |
| 2023 | 22-04-2023 | 8 | 5 | 6.2 | 158.6 | 22.0 | 54.3 | 1019.2 | 430.2 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 6 | 6.2 | 188.7 | 22.4 | 62.1 | 1019.8 | 520.2 | 0.0 | 5.2 |
| 2023 | 22-04-2023 | 8 | 7 | 6.2 | 166.5 | 23.2 | 49.8 | 1015.4 | 589.2 | 0.0 | 3.0 |
| 2023 | 22-04-2023 | 8 | 8 | 6.6 | 177.5 | 24.6 | 52.0 | 1019.2 | 444.2 | 0.0 | 2.0 |
| 2023 | 22-04-2023 | 8 | 9 | 5.6 | 152.5 | 26.8 | 57.2 | 1018.9 | 560.2 | 0.0 | 4.4 |
| 2023 | 22-04-2023 | 8 | 10 | 6.1 | 146.8 | 28.4 | 60.2 | 1021.2 | 520.2 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 11 | 4.8 | 158.6 | 30.2 | 62.2 | 1019.8 | 252.4 | 0.0 | 6.4 |

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 22-04-2023 | 8 | 12 | 3.5 | 165.2 | 31.2 | 63.3 | 1018.9 | 444.2 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 13 | 2.2 | 205.3 | 32.2 | 64.1 | 1021.2 | 560.2 | 0.0 | 4.8 |
| 2023 | 22-04-2023 | 8 | 14 | 3.2 | 201.6 | 32.4 | 64.3 | 1021.6 | 633.2 | 0.0 | 2.6 |
| 2023 | 22-04-2023 | 8 | 15 | 4.2 | 177.5 | 31.4 | 63.8 | 1020.4 | 562.2 | 0.0 | 1.0 |
| 2023 | 22-04-2023 | 8 | 16 | 2.5 | 152.5 | 30.2 | 60.2 | 1012.5 | 453.2 | 0.0 | 2.2 |
| 2023 | 22-04-2023 | 8 | 17 | 2.5 | 146.8 | 30.0 | 62.2 | 1019.2 | 488.5 | 0.0 | 0.0 |
| 2023 | 22-04-2023 | 8 | 18 | 2.9 | 158.6 | 29.8 | 61.2 | 1018.4 | 0.0 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 19 | 3.1 | 165.2 | 28.6 | 61.2 | 1018.6 | 0.0 | 0.0 | 6.4 |
| 2023 | 22-04-2023 | 8 | 20 | 4.2 | 205.3 | 27.6 | 67.0 | 1020.5 | 0.0 | 0.0 | 7.2 |
| 2023 | 22-04-2023 | 8 | 21 | 2.5 | 201.6 | 26.5 | 57.2 | 1016.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 22-04-2023 | 8 | 22 | 2.5 | 128.9 | 25.3 | 53.2 | 1017.8 | 0.0 | 0.0 | 2.6 |
| 2023 | 22-04-2023 | 8 | 23 | 2.9 | 188.9 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 1.0 |
| 2023 | 22-04-2023 | 8 | 24 | 3.1 | 202.6 | 18.4 | 42.4 | 1019.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 23-04-2023 | 9 | 1 | 3.0 | 232.6 | 18.6 | 55.2 | 1015.4 | 0.0 | 0.0 | 2.6 |
| 2023 | 23-04-2023 | 9 | 2 | 4.2 | 256.2 | 20.4 | 65.2 | 1019.2 | 0.0 | 0.0 | 1.0 |
| 2023 | 23-04-2023 | 9 | 3 | 1.6 | 254.3 | 20.4 | 48.8 | 1018.9 | 0.0 | 0.0 | 2.2 |
| 2023 | 23-04-2023 | 9 | 4 | 4.2 | 258.2 | 21.6 | 49.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 5 | 2.0 | 254.6 | 22.0 | 54.3 | 1019.8 | 444.2 | 0.0 | 7.2 |
| 2023 | 23-04-2023 | 9 | 6 | 3.2 | 188.2 | 22.4 | 62.1 | 1018.9 | 560.2 | 0.0 | 6.4 |
| 2023 | 23-04-2023 | 9 | 7 | 4.8 | 158.6 | 24.0 | 49.8 | 1021.2 | 633.2 | 0.0 | 7.2 |
| 2023 | 23-04-2023 | 9 | 8 | 6.2 | 168.4 | 24.6 | 52.0 | 1021.6 | 562.2 | 0.0 | 4.8 |
| 2023 | 23-04-2023 | 9 | 9 | 6.2 | 166.5 | 26.8 | 57.2 | 1020.4 | 453.2 | 0.0 | 2.6 |
| 2023 | 23-04-2023 | 9 | 10 | 6.3 | 177.5 | 28.4 | 60.2 | 1012.5 | 633.2 | 0.0 | 2.8 |
| 2023 | 23-04-2023 | 9 | 11 | 5.6 | 152.5 | 30.2 | 62.2 | 1019.2 | 562.2 | 0.0 | 3.4 |
| 2023 | 23-04-2023 | 9 | 12 | 6.1 | 144.3 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 2.2 |
| 2023 | 23-04-2023 | 9 | 13 | 4.8 | 158.6 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 3.2 |
| 2023 | 23-04-2023 | 9 | 14 | 3.5 | 165.2 | 32.4 | 64.3 | 1019.8 | 453.2 | 0.0 | 4.2 |
| 2023 | 23-04-2023 | 9 | 15 | 4.6 | 188.6 | 31.4 | 63.8 | 1018.9 | 488.5 | 0.0 | 1.8 |
| 2023 | 23-04-2023 | 9 | 16 | 3.2 | 182.6 | 30.2 | 60.2 | 1021.2 | 288.4 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 17 | 4.2 | 128.9 | 30.0 | 62.2 | 1021.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 18 | 2.2 | 188.9 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 19 | 2.5 | 189.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 20 | 2.9 | 134.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 21 | 2.8 | 198.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 22 | 3.0 | 125.8 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-04-2023 | 9 | 23 | 4.2 | 164.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 6.6 |
| 2023 | 23-04-2023 | 9 | 24 | 2.2 | 188.6 | 22.4 | 47.2 | 1020.3 | 0.0 | 0.0 | 2.8 |
| 2023 | 24//04/23 | 10 | 1 | 3.2 | 188.6 | 18.8 | 55.2 | 1018.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 24//04/23 | 10 | 2 | 4.2 | 182.6 | 19.4 | 65.2 | 1017.9 | 0.0 | 0.0 | 2.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 24//04/23 | 10 | 3 | 2.2 | 128.9 | 20.4 | 48.8 | 1020.3 | 0.0 | 0.0 | 7.4 |
| 2023 | 24//04/23 | 10 | 4 | 2.5 | 188.9 | 21.8 | 49.2 | 1017.2 | 0.0 | 0.0 | 4.1 |
| 2023 | 24//04/23 | 10 | 5 | 2.9 | 189.2 | 22.0 | 54.3 | 1015.2 | 560.2 | 0.0 | 6.8 |
| 2023 | 24//04/23 | 10 | 6 | 2.8 | 134.2 | 22.4 | 62.1 | 1014.8 | 633.2 | 0.0 | 2.4 |
| 2023 | 24//04/23 | 10 | 7 | 3.0 | 198.2 | 23.2 | 49.8 | 1016.2 | 654.3 | 0.0 | 4.8 |
| 2023 | 24//04/23 | 10 | 8 | 4.2 | 125.8 | 24.6 | 52.0 | 1014.8 | 453.2 | 0.0 | 7.4 |
| 2023 | 24//04/23 | 10 | 9 | 2.2 | 164.8 | 26.8 | 57.2 | 1016.8 | 488.5 | 0.0 | 4.1 |
| 2023 | 24//04/23 | 10 | 10 | 3.8 | 188.6 | 28.4 | 60.2 | 1017.8 | 288.4 | 0.0 | 6.8 |
| 2023 | 24//04/23 | 10 | 11 | 2.0 | 88.6 | 30.2 | 62.2 | 1019.2 | 544.2 | 0.0 | 2.4 |
| 2023 | 24//04/23 | 10 | 12 | 4.5 | 87.6 | 31.2 | 63.3 | 1019.8 | 453.2 | 0.0 | 5.2 |
| 2023 | 24//04/23 | 10 | 13 | 4.1 | 92.6 | 32.2 | 64.1 | 1015.4 | 488.5 | 0.0 | 7.4 |
| 2023 | 24//04/23 | 10 | 14 | 3.2 | 110.2 | 32.4 | 64.3 | 1016.5 | 288.4 | 0.0 | 4.1 |
| 2023 | 24//04/23 | 10 | 15 | 4.2 | 140.2 | 31.4 | 63.8 | 1018.9 | 423.2 | 0.0 | 6.8 |
| 2023 | 24//04/23 | 10 | 16 | 5.2 | 188.2 | 30.2 | 60.2 | 1021.2 | 423.2 | 0.0 | 2.4 |
| 2023 | 24//04/23 | 10 | 17 | 4.3 | 240.2 | 30.0 | 62.2 | 1019.8 | 452.3 | 0.0 | 0.0 |
| 2023 | 24//04/23 | 10 | 18 | 2.6 | 188.6 | 29.8 | 61.2 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 24//04/23 | 10 | 19 | 3.2 | 175.2 | 28.6 | 61.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 24//04/23 | 10 | 20 | 4.4 | 204.2 | 27.6 | 67.0 | 1021.6 | 0.0 | 0.0 | 2.2 |
| 2023 | 24//04/23 | 10 | 21 | 2.6 | 88.8 | 26.5 | 57.2 | 1021.8 | 0.0 | 0.0 | 5.5 |
| 2023 | 24//04/23 | 10 | 22 | 3.6 | 198.2 | 25.3 | 53.2 | 1012.5 | 0.0 | 0.0 | 6.8 |
| 2023 | 24//04/23 | 10 | 23 | 5.0 | 188.2 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 3.8 |
| 2023 | 24//04/23 | 10 | 24 | 5.2 | 188.2 | 18.4 | 42.4 | 1018.4 | 0.0 | 0.0 | 5.0 |
| 2023 | 25-04-2023 | 11 | 1 | 3.8 | 65.8 | 18.4 | 43.2 | 1018.6 | 0.0 | 0.0 | 3.1 |
| 2023 | 25-04-2023 | 11 | 2 | 5.3 | 86.7 | 18.8 | 46.4 | 1017.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 25-04-2023 | 11 | 3 | 5.6 | 75.6 | 19.6 | 47.1 | 1019.2 | 0.0 | 0.0 | 2.3 |
| 2023 | 25-04-2023 | 11 | 4 | 5.2 | 99.2 | 22.4 | 48.5 | 1014.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-04-2023 | 11 | 5 | 5.1 | 142.2 | 23.4 | 46.5 | 1016.8 | 480.3 | 0.0 | 0.0 |
| 2023 | 25-04-2023 | 11 | 6 | 4.2 | 86.7 | 26.8 | 56.8 | 1017.8 | 520.0 | 0.0 | 0.0 |
| 2023 | 25-04-2023 | 11 | 7 | 5.0 | 75.6 | 27.8 | 57.6 | 1019.2 | 482.0 | 0.0 | 4.2 |
| 2023 | 25-04-2023 | 11 | 8 | 3.6 | 112.2 | 28.0 | 56.2 | 1019.8 | 456.0 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 9 | 3.0 | 148.2 | 29.2 | 61.2 | 1015.4 | 482.0 | 0.0 | 8.7 |
| 2023 | 25-04-2023 | 11 | 10 | 2.8 | 186.2 | 29.6 | 52.6 | 1016.5 | 652.2 | 0.0 | 7.2 |
| 2023 | 25-04-2023 | 11 | 11 | 4.8 | 168.2 | 30.6 | 62.8 | 1018.9 | 488.9 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 12 | 5.2 | 180.2 | 30.8 | 62.4 | 1021.2 | 488.7 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 13 | 2.0 | 166.2 | 31.4 | 68.2 | 1019.8 | 488.2 | 0.0 | 3.6 |
| 2023 | 25-04-2023 | 11 | 14 | 2.4 | 145.2 | 32.8 | 63.8 | 1018.9 | 511.6 | 0.0 | 4.2 |
| 2023 | 25-04-2023 | 11 | 15 | 2.6 | 182.2 | 33.2 | 64.2 | 1021.2 | 412.2 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 16 | 3.8 | 124.2 | 32.6 | 65.0 | 1021.6 | 520.2 | 0.0 | 3.6 |
| 2023 | 25-04-2023 | 11 | 17 | 4.1 | 4.9 | 32.0 | 64.0 | 1018.4 | 486.2 | 0.0 | 5.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 25-04-2023 | 11 | 18 | 4.5 | 17.3 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 19 | 4.8 | 41.7 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 20 | 6.3 | 49.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 3.6 |
| 2023 | 25-04-2023 | 11 | 21 | 6.6 | 62.6 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 25-04-2023 | 11 | 22 | 6.2 | 60.8 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 25-04-2023 | 11 | 23 | 4.8 | 87.0 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 25-04-2023 | 11 | 24 | 4.6 | 98.8 | 26.0 | 57.5 | 1016.5 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 1 | 4.6 | 48.5 | 19.0 | 55.2 | 1019.2 | 0.0 | 0.0 | 8.7 |
| 2023 | 26-04-2023 | 12 | 2 | 2.6 | 140.6 | 19.4 | 65.2 | 1018.4 | 0.0 | 0.0 | 7.2 |
| 2023 | 26-04-2023 | 12 | 3 | 3.4 | 72.8 | 20.4 | 48.8 | 1018.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 4 | 2.1 | 70.6 | 22.4 | 49.2 | 1017.9 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 5 | 2.6 | 84.6 | 23.2 | 54.3 | 1019.2 | 480.6 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 6 | 3.6 | 82.3 | 23.6 | 56.2 | 1014.8 | 633.2 | 0.0 | 4.2 |
| 2023 | 26-04-2023 | 12 | 7 | 2.4 | 90.2 | 23.2 | 49.8 | 1018.9 | 568.4 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 8 | 4.6 | 87.6 | 24.6 | 52.0 | 1021.2 | 453.2 | 0.0 | 5.2 |
| 2023 | 26-04-2023 | 12 | 9 | 4.6 | 92.6 | 26.8 | 57.2 | 1021.6 | 488.5 | 0.0 | 5.6 |
| 2023 | 26-04-2023 | 12 | 10 | 3.6 | 110.2 | 28.4 | 60.2 | 1021.8 | 308.5 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 11 | 4.2 | 65.8 | 30.2 | 62.2 | 1012.5 | 633.2 | 0.0 | 4.2 |
| 2023 | 26-04-2023 | 12 | 12 | 4.6 | 86.7 | 31.2 | 64.2 | 1019.2 | 568.4 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 13 | 3.6 | 75.6 | 32.2 | 64.1 | 1018.4 | 453.2 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 14 | 5.6 | 99.2 | 33.8 | 64.3 | 1018.6 | 488.5 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 15 | 4.6 | 90.2 | 33.4 | 64.0 | 1018.9 | 308.5 | 0.0 | 8.7 |
| 2023 | 26-04-2023 | 12 | 16 | 4.6 | 87.6 | 32.4 | 63.0 | 1021.2 | 568.4 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 17 | 3.6 | 92.6 | 31.2 | 62.2 | 1021.6 | 453.2 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 18 | 4.2 | 110.2 | 30.2 | 61.2 | 1021.8 | 488.5 | 0.0 | 4.2 |
| 2023 | 26-04-2023 | 12 | 19 | 4.6 | 165.2 | 28.6 | 60.2 | 1012.5 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 20 | 3.6 | 86.7 | 27.6 | 57.2 | 1019.2 | 0.0 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 21 | 5.4 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 22 | 4.6 | 144.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 26-04-2023 | 12 | 23 | 5.0 | 120.6 | 23.2 | 48.0 | 1017.9 | 0.0 | 0.0 | 3.6 |
| 2023 | 26-04-2023 | 12 | 24 | 4.8 | 68.5 | 18.4 | 42.4 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 27-04-2023 | 13 | 1 | 3.6 | 120.2 | 18.6 | 54.4 | 1014.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 27-04-2023 | 13 | 2 | 4.2 | 88.4 | 18.8 | 55.2 | 1017.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 27-04-2023 | 13 | 3 | 4.6 | 182.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 5.6 |
| 2023 | 27-04-2023 | 13 | 4 | 3.6 | 83.5 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 27-04-2023 | 13 | 5 | 5.4 | 156.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 27-04-2023 | 13 | 6 | 4.6 | 134.2 | 22.0 | 54.3 | 1014.8 | 152.2 | 0.0 | 4.6 |
| 2023 | 27-04-2023 | 13 | 7 | 5.0 | 138.2 | 22.4 | 62.1 | 1016.8 | 156.2 | 0.0 | 3.6 |
| 2023 | 27-04-2023 | 13 | 8 | 4.8 | 245.3 | 23.2 | 49.8 | 1017.8 | 238.1 | 0.0 | 4.6 |

For N.D. International

K.P. De - CEO

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N.D. INTERNATIONAL KOLKATA

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 27-04-2023 | 13 | 9 | 4.6 | 154.3 | 24.6 | 52.0 | 1019.2 | 388.2 | 0.0 | 8.7 |
| 2023 | 27-04-2023 | 13 | 10 | 4.6 | 152.3 | 26.8 | 57.2 | 1019.8 | 682.6 | 0.0 | 4.6 |
| 2023 | 27-04-2023 | 13 | 11 | 6.1 | 202.2 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 3.6 |
| 2023 | 27-04-2023 | 13 | 12 | 6.2 | 88.2 | 30.2 | 62.2 | 1016.5 | 652.1 | 0.0 | 4.2 |
| 2023 | 27-04-2023 | 13 | 13 | 6.2 | 74.7 | 31.2 | 63.3 | 1018.9 | 682.6 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 14 | 4.8 | 68.4 | 32.2 | 64.1 | 1021.2 | 633.2 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 15 | 5.6 | 73.7 | 32.4 | 64.3 | 1019.8 | 652.1 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 16 | 2.3 | 65.9 | 31.4 | 63.8 | 1018.9 | 530.2 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 17 | 4.6 | 66.1 | 30.2 | 60.2 | 1021.2 | 386.0 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 18 | 4.8 | 68.4 | 30.0 | 62.2 | 1021.6 | 292.3 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 19 | 6.5 | 49.8 | 29.8 | 61.2 | 1021.8 | 380.2 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 20 | 6.4 | 152.3 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 21 | 5.6 | 162.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 27-04-2023 | 13 | 22 | 6.2 | 88.9 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 6.2 |
| 2023 | 27-04-2023 | 13 | 23 | 5.7 | 104.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 2.8 |
| 2023 | 27-04-2023 | 13 | 24 | 5.6 | 102.6 | 23.2 | 48.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 28-04-2023 | 14 | 1 | 2.3 | 152.3 | 18.8 | 55.2 | 1019.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 28-04-2023 | 14 | 2 | 4.6 | 162.3 | 19.4 | 65.2 | 1018.9 | 0.0 | 0.0 | 7.4 |
| 2023 | 28-04-2023 | 14 | 3 | 4.8 | 88.9 | 20.4 | 48.8 | 1021.2 | 0.0 | 0.0 | 4.1 |
| 2023 | 28-04-2023 | 14 | 4 | 6.5 | 152.3 | 21.8 | 49.2 | 1021.6 | 0.0 | 0.0 | 6.8 |
| 2023 | 28-04-2023 | 14 | 5 | 6.4 | 162.3 | 22.4 | 54.3 | 1021.8 | 423.0 | 0.0 | 2.4 |
| 2023 | 28-04-2023 | 14 | 6 | 5.6 | 88.9 | 23.2 | 62.1 | 1012.5 | 446.2 | 0.0 | 4.8 |
| 2023 | 28-04-2023 | 14 | 7 | 6.2 | 104.2 | 23.4 | 49.8 | 1019.2 | 252.4 | 0.0 | 7.4 |
| 2023 | 28-04-2023 | 14 | 8 | 5.7 | 102.6 | 24.6 | 52.0 | 1018.4 | 444.2 | 0.0 | 4.1 |
| 2023 | 28-04-2023 | 14 | 9 | 6.3 | 152.3 | 26.8 | 57.2 | 1018.6 | 560.2 | 0.0 | 6.8 |
| 2023 | 28-04-2023 | 14 | 10 | 2.3 | 162.3 | 28.4 | 60.2 | 1019.2 | 633.2 | 0.0 | 2.4 |
| 2023 | 28-04-2023 | 14 | 11 | 4.6 | 88.9 | 30.2 | 62.2 | 1017.2 | 562.2 | 0.0 | 5.2 |
| 2023 | 28-04-2023 | 14 | 12 | 4.8 | 104.2 | 31.2 | 63.3 | 1015.2 | 453.2 | 0.0 | 7.4 |
| 2023 | 28-04-2023 | 14 | 13 | 6.5 | 102.6 | 32.2 | 64.1 | 1014.8 | 572.2 | 0.0 | 4.1 |
| 2023 | 28-04-2023 | 14 | 14 | 6.4 | 130.2 | 32.4 | 64.3 | 1016.2 | 288.4 | 0.0 | 6.8 |
| 2023 | 28-04-2023 | 14 | 15 | 5.6 | 222.5 | 31.4 | 63.8 | 1014.8 | 542.0 | 0.0 | 2.4 |
| 2023 | 28-04-2023 | 14 | 16 | 4.6 | 125.8 | 30.2 | 60.2 | 1016.8 | 458.2 | 0.0 | 0.0 |
| 2023 | 28-04-2023 | 14 | 17 | 4.8 | 164.8 | 30.0 | 62.2 | 1017.8 | 496.2 | 0.0 | 0.0 |
| 2023 | 28-04-2023 | 14 | 18 | 6.5 | 188.6 | 29.8 | 61.2 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 28-04-2023 | 14 | 19 | 6.4 | 232.6 | 28.6 | 61.2 | 1019.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 28-04-2023 | 14 | 20 | 5.6 | 205.3 | 27.6 | 67.0 | 1015.4 | 0.0 | 0.0 | 5.5 |
| 2023 | 28-04-2023 | 14 | 21 | 2.3 | 201.6 | 26.5 | 57.2 | 1019.2 | 0.0 | 0.0 | 6.8 |
| 2023 | 28-04-2023 | 14 | 22 | 6.4 | 128.9 | 25.3 | 53.2 | 1018.9 | 0.0 | 0.0 | 3.8 |
| 2023 | 28-04-2023 | 14 | 23 | 2.6 | 188.9 | 23.2 | 48.2 | 1021.2 | 0.0 | 0.0 | 5.0 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 28-04-2023 | 14 | 24 | 2.8 | 188.4 | 19.2 | 54.6 | 1019.8 | 0.0 | 0.0 | 3.1 |
| 2023 | 29-04-2023 | 15 | 1 | 4.4 | 88.6 | 19.2 | 57.2 | 1018.9 | 0.0 | 0.0 | 2.4 |
| 2023 | 29-04-2023 | 15 | 2 | 4.8 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 2.3 |
| 2023 | 29-04-2023 | 15 | 3 | 3.2 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 5.0 |
| 2023 | 29-04-2023 | 15 | 4 | 3.4 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 3.1 |
| 2023 | 29-04-2023 | 15 | 5 | 4.4 | 65.8 | 22.0 | 54.3 | 1014.8 | 423.3 | 0.0 | 2.4 |
| 2023 | 29-04-2023 | 15 | 6 | 4.2 | 86.7 | 22.4 | 62.1 | 1016.8 | 423.1 | 0.0 | 2.3 |
| 2023 | 29-04-2023 | 15 | 7 | 3.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 560.2 | 0.0 | 0.0 |
| 2023 | 29-04-2023 | 15 | 8 | 5.6 | 99.2 | 24.6 | 52.0 | 1019.2 | 633.2 | 0.0 | 8.7 |
| 2023 | 29-04-2023 | 15 | 9 | 6.5 | 48.5 | 26.8 | 57.2 | 1019.8 | 654.3 | 0.0 | 7.2 |
| 2023 | 29-04-2023 | 15 | 10 | 4.6 | 68.5 | 28.4 | 60.2 | 1015.4 | 453.2 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 11 | 3.2 | 72.8 | 30.2 | 62.2 | 1016.5 | 488.5 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 12 | 2.8 | 70.6 | 31.2 | 63.3 | 1018.9 | 453.2 | 0.0 | 3.6 |
| 2023 | 29-04-2023 | 15 | 13 | 2.6 | 84.6 | 32.2 | 64.1 | 1021.2 | 488.5 | 0.0 | 4.2 |
| 2023 | 29-04-2023 | 15 | 14 | 5.6 | 82.3 | 32.4 | 64.3 | 1019.8 | 320.2 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 15 | 3.5 | 90.2 | 31.4 | 63.8 | 1018.9 | 423.0 | 0.0 | 3.6 |
| 2023 | 29-04-2023 | 15 | 16 | 4.2 | 87.6 | 30.2 | 60.2 | 1021.2 | 542.3 | 0.0 | 5.6 |
| 2023 | 29-04-2023 | 15 | 17 | 2.6 | 92.6 | 30.0 | 62.2 | 1021.6 | 486.2 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 18 | 5.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 3.6 |
| 2023 | 29-04-2023 | 15 | 20 | 5.6 | 86.7 | 27.6 | 67.0 | 1019.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 29-04-2023 | 15 | 21 | 3.5 | 75.6 | 26.5 | 57.2 | 1018.9 | 0.0 | 0.0 | 4.6 |
| 2023 | 29-04-2023 | 15 | 22 | 4.2 | 99.2 | 25.3 | 53.2 | 1021.2 | 0.0 | 0.0 | 3.6 |
| 2023 | 29-04-2023 | 15 | 23 | 2.6 | 48.5 | 23.2 | 48.2 | 1021.6 | 0.0 | 0.0 | 4.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 29-04-2023 | 15 | 24 | 5.2 | 68.5 | 18.0 | 42.4 | 1021.8 | 0.0 | 0.0 | 8.7 |
| 2023 | 30-04-2023 | 16 | 1 | 4.2 | 82.3 | 18.8 | 43.2 | 1012.5 | 0.0 | 0.0 | 7.2 |
| 2023 | 30-04-2023 | 16 | 2 | 2.6 | 90.2 | 19.2 | 46.4 | 1019.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 3 | 5.2 | 87.6 | 23.0 | 47.1 | 1018.4 | 0.0 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 4 | 2.6 | 92.6 | 23.2 | 48.5 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 5 | 5.6 | 110.2 | 23.4 | 46.5 | 1019.2 | 458.2 | 0.0 | 4.2 |
| 2023 | 30-04-2023 | 16 | 6 | 3.5 | 65.8 | 26.8 | 56.8 | 1017.2 | 458.2 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 7 | 4.2 | 86.7 | 27.8 | 57.6 | 1015.2 | 385.2 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 8 | 2.6 | 75.6 | 28.0 | 56.2 | 1014.8 | 285.3 | 0.0 | 5.6 |
| 2023 | 30-04-2023 | 16 | 9 | 5.2 | 99.2 | 29.2 | 61.2 | 1016.2 | 488.7 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 10 | 3.8 | 48.5 | 30.2 | 52.6 | 1014.8 | 398.2 | 0.0 | 4.2 |
| 2023 | 30-04-2023 | 16 | 11 | 4.2 | 68.5 | 30.6 | 62.8 | 1016.8 | 511.6 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 12 | 5.6 | 74.7 | 30.8 | 62.4 | 1017.8 | 412.2 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 13 | 5.2 | 67.7 | 31.4 | 68.2 | 1019.2 | 398.2 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 14 | 2.6 | 66.1 | 33.6 | 63.8 | 1019.8 | 511.6 | 0.0 | 8.7 |
| 2023 | 30-04-2023 | 16 | 15 | 4.2 | 108.8 | 33.2 | 64.2 | 1015.4 | 412.2 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 16 | 5.0 | 88.6 | 32.6 | 65.0 | 1019.2 | 420.0 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 17 | 4.2 | 87.6 | 32.0 | 64.0 | 1018.9 | 458.6 | 0.0 | 4.2 |
| 2023 | 30-04-2023 | 16 | 18 | 2.6 | 92.6 | 31.2 | 62.3 | 1021.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 30-04-2023 | 16 | 19 | 2.1 | 110.2 | 29.8 | 62.2 | 1019.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 30-04-2023 | 16 | 20 | 2.3 | 65.8 | 29.2 | 61.2 | 1018.9 | 0.0 | 0.0 | 5.6 |
| 2023 | 30-04-2023 | 16 | 21 | 6.2 | 86.7 | 27.6 | 57.6 | 1021.2 | 0.0 | 0.0 | 2.4 |
| 2023 | 30-04-2023 | 16 | 22 | 6.2 | 75.6 | 27.1 | 54.2 | 1021.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 30-04-2023 | 16 | 23 | 4.2 | 120.4 | 26.4 | 52.6 | 1020.4 | 0.0 | 0.0 | 5.0 |
| 2023 | 30-04-2023 | 16 | 24 | 5.2 | 98.8 | 26.0 | 57.5 | 1012.5 | 0.0 | 0.0 | 4.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

Certificate No. W(M)/23-24/0658 Date: June 6 , 2023

Name of Customer : M/s. Geosumukh Inframines Pvt. Ltd.

Address : 75/A/27 , Lal Bhadur Sasti Road , Kannagar , Hooghly , West Bengal - 712235.

: Site Address : Mouja- Karakpur, Block-Dantan-1 .

Description of Sample : Weather Monitoring

Sampling Locaton : M-2

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 01-05-2023 | 17 | 1 | 2.4 | 108.8 | 19.2 | 55.2 | 1019.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 01-05-2023 | 17 | 2 | 4.2 | 88.6 | 19.4 | 65.2 | 1018.4 | 0.0 | 0.0 | 2.1 |
| 2023 | 01-05-2023 | 17 | 3 | 5.0 | 87.6 | 20.2 | 48.8 | 1018.6 | 0.0 | 0.0 | 2.3 |
| 2023 | 01-05-2023 | 17 | 4 | 4.2 | 92.6 | 21.8 | 49.2 | 1017.9 | 0.0 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 5 | 2.6 | 110.2 | 23.2 | 54.3 | 1015.2 | 325.2 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 6 | 2.1 | 65.8 | 23.6 | 56.2 | 1017.2 | 3250.0 | 0.0 | 4.2 |
| 2023 | 01-05-2023 | 17 | 7 | 2.3 | 86.7 | 23.2 | 49.8 | 1015.2 | 428.0 | 0.0 | 5.2 |
| 2023 | 01-05-2023 | 17 | 8 | 6.2 | 75.6 | 24.6 | 52.0 | 1014.8 | 423.1 | 0.0 | 2.4 |
| 2023 | 01-05-2023 | 17 | 9 | 6.2 | 120.4 | 26.8 | 57.2 | 1016.2 | 480.6 | 0.0 | 3.2 |
| 2023 | 01-05-2023 | 17 | 10 | 4.2 | 98.8 | 28.4 | 60.2 | 1014.8 | 633.2 | 0.0 | 2.9 |
| 2023 | 01-05-2023 | 17 | 11 | 5.2 | 88.6 | 30.2 | 62.2 | 1016.8 | 568.4 | 0.0 | 3.8 |
| 2023 | 01-05-2023 | 17 | 12 | 2.4 | 120.2 | 31.2 | 64.2 | 1017.8 | 453.2 | 0.0 | 2.6 |
| 2023 | 01-05-2023 | 17 | 13 | 3.2 | 92.6 | 32.2 | 64.1 | 1019.2 | 488.5 | 0.0 | 2.6 |
| 2023 | 01-05-2023 | 17 | 14 | 2.9 | 110.2 | 32.4 | 64.3 | 1019.8 | 308.5 | 0.0 | 2.1 |
| 2023 | 01-05-2023 | 17 | 15 | 3.8 | 65.8 | 31.4 | 63.8 | 1015.4 | 440.0 | 0.0 | 2.3 |
| 2023 | 01-05-2023 | 17 | 16 | 2.6 | 86.7 | 30.2 | 62.2 | 1016.5 | 458.6 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 17 | 5.2 | 75.6 | 30.0 | 62.2 | 1018.9 | 652.2 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 18 | 4.2 | 99.2 | 29.8 | 61.2 | 1021.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 01-05-2023 | 17 | 19 | 4.6 | 65.8 | 28.6 | 60.2 | 1019.8 | 0.0 | 0.0 | 5.2 |
| 2023 | 01-05-2023 | 17 | 20 | 3.6 | 120.0 | 27.6 | 57.2 | 1018.9 | 0.0 | 0.0 | 6.4 |
| 2023 | 01-05-2023 | 17 | 21 | 4.2 | 122.3 | 26.5 | 57.2 | 1021.2 | 0.0 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 22 | 4.6 | 142.0 | 25.3 | 53.2 | 1021.6 | 0.0 | 0.0 | 2.1 |
| 2023 | 01-05-2023 | 17 | 23 | 5.0 | 123.0 | 23.2 | 48.0 | 1021.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 01-05-2023 | 17 | 24 | 2.5 | 125.0 | 18.4 | 42.4 | 1012.5 | 0.0 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 1 | 2.6 | 142.0 | 18.6 | 54.4 | 1019.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 02-05-2023 | 18 | 2 | 5.2 | 160.0 | 18.8 | 55.2 | 1018.4 | 0.0 | 0.0 | 5.2 |
| 2023 | 02-05-2023 | 18 | 3 | 4.2 | 120.3 | 19.4 | 65.2 | 1018.6 | 0.0 | 0.0 | 6.4 |
| 2023 | 02-05-2023 | 18 | 4 | 4.6 | 124.0 | 20.4 | 48.8 | 1017.9 | 0.0 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 5 | 3.6 | 148.2 | 21.8 | 49.2 | 1019.2 | 388.2 | 0.0 | 2.1 |
| 2023 | 02-05-2023 | 18 | 6 | 4.2 | 33.8 | 22.0 | 54.3 | 1014.8 | 682.6 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 7 | 4.6 | 126.0 | 22.4 | 62.1 | 1016.8 | 633.2 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 8 | 5.0 | 54.8 | 23.2 | 49.8 | 1017.8 | 652.1 | 0.0 | 4.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

N.P. De - CEO

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 02-05-2023 | 18 | 9 | 2.5 | 120.3 | 24.6 | 52.0 | 1019.2 | 388.2 | 0.0 | 5.2 |
| 2023 | 02-05-2023 | 18 | 10 | 4.6 | 123.0 | 26.8 | 57.2 | 1019.8 | 682.6 | 0.0 | 6.4 |
| 2023 | 02-05-2023 | 18 | 11 | 4.6 | 124.0 | 28.4 | 60.2 | 1015.4 | 633.2 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 12 | 6.1 | 128.0 | 30.2 | 62.2 | 1016.5 | 652.1 | 0.0 | 2.1 |
| 2023 | 02-05-2023 | 18 | 13 | 6.2 | 135.0 | 32.0 | 63.3 | 1021.6 | 530.2 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 14 | 6.2 | 162.0 | 33.8 | 64.1 | 1021.8 | 386.0 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 15 | 4.8 | 120.0 | 32.4 | 64.3 | 1012.5 | 420.0 | 0.0 | 4.2 |
| 2023 | 02-05-2023 | 18 | 16 | 5.6 | 153.0 | 32.6 | 63.8 | 1019.2 | 456.0 | 0.0 | 0.0 |
| 2023 | 02-05-2023 | 18 | 17 | 2.3 | 66.1 | 31.8 | 63.0 | 1018.4 | 452.3 | 0.0 | 2.2 |
| 2023 | 02-05-2023 | 18 | 18 | 4.6 | 68.4 | 30.0 | 62.2 | 1018.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 02-05-2023 | 18 | 19 | 4.8 | 49.8 | 29.8 | 61.2 | 1017.9 | 0.0 | 0.0 | 1.8 |
| 2023 | 02-05-2023 | 18 | 20 | 6.4 | 50.9 | 28.6 | 61.2 | 1019.2 | 0.0 | 0.0 | 1.2 |
| 2023 | 02-05-2023 | 18 | 21 | 4.8 | 66.4 | 27.6 | 67.0 | 1014.8 | 0.0 | 0.0 | 6.8 |
| 2023 | 02-05-2023 | 18 | 22 | 5.8 | 88.9 | 26.5 | 57.2 | 1016.8 | 0.0 | 0.0 | 8.5 |
| 2023 | 02-05-2023 | 18 | 23 | 6.2 | 164.8 | 25.3 | 53.2 | 1017.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 02-05-2023 | 18 | 24 | 6.2 | 188.6 | 23.2 | 48.2 | 1019.2 | 0.0 | 0.0 | 4.7 |
| 2023 | 03-05-2023 | 19 | 1 | 6.6 | 232.6 | 18.8 | 55.2 | 1019.8 | 0.0 | 0.0 | 4.4 |
| 2023 | 03-05-2023 | 19 | 2 | 5.6 | 366.2 | 19.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 4.9 |
| 2023 | 03-05-2023 | 19 | 3 | 6.4 | 334.5 | 20.4 | 48.8 | 1016.5 | 0.0 | 0.0 | 4.1 |
| 2023 | 03-05-2023 | 19 | 4 | 4.8 | 258.2 | 21.8 | 49.2 | 1018.9 | 0.0 | 0.0 | 1.4 |
| 2023 | 03-05-2023 | 19 | 5 | 3.5 | 254.6 | 22.0 | 54.3 | 1021.2 | 444.2 | 0.0 | 2.8 |
| 2023 | 03-05-2023 | 19 | 6 | 2.2 | 88.4 | 22.4 | 62.1 | 1019.8 | 560.2 | 0.0 | 2.4 |
| 2023 | 03-05-2023 | 19 | 7 | 4.8 | 158.6 | 23.2 | 49.8 | 1018.9 | 633.2 | 0.0 | 2.7 |
| 2023 | 03-05-2023 | 19 | 8 | 6.4 | 188.7 | 24.6 | 52.0 | 1014.8 | 562.2 | 0.0 | 2.8 |
| 2023 | 03-05-2023 | 19 | 9 | 4.8 | 166.5 | 26.8 | 57.2 | 1015.4 | 453.2 | 0.0 | 2.8 |
| 2023 | 03-05-2023 | 19 | 10 | 5.8 | 177.5 | 28.4 | 60.2 | 1016.5 | 488.5 | 0.0 | 2.8 |
| 2023 | 03-05-2023 | 19 | 11 | 6.2 | 152.5 | 30.2 | 62.2 | 1018.9 | 562.2 | 0.0 | 1.2 |
| 2023 | 03-05-2023 | 19 | 12 | 6.2 | 146.8 | 31.2 | 63.3 | 1021.2 | 453.2 | 0.0 | 3.9 |
| 2023 | 03-05-2023 | 19 | 13 | 6.6 | 188.7 | 32.8 | 64.1 | 1019.8 | 488.5 | 0.0 | 6.4 |
| 2023 | 03-05-2023 | 19 | 14 | 5.6 | 166.5 | 33.8 | 64.3 | 1018.9 | 562.2 | 0.0 | 7.3 |
| 2023 | 03-05-2023 | 19 | 15 | 6.4 | 177.5 | 32.5 | 63.8 | 1014.8 | 453.2 | 0.0 | 3.4 |
| 2023 | 03-05-2023 | 19 | 16 | 4.8 | 152.5 | 31.8 | 60.2 | 1016.2 | 488.5 | 0.0 | 4.6 |
| 2023 | 03-05-2023 | 19 | 17 | 3.0 | 146.8 | 31.8 | 62.2 | 1014.8 | 0.0 | 0.0 | 6.4 |
| 2023 | 03-05-2023 | 19 | 18 | 4.2 | 158.6 | 29.8 | 61.2 | 1016.8 | 0.0 | 0.0 | 5.4 |
| 2023 | 03-05-2023 | 19 | 19 | 2.5 | 165.2 | 28.6 | 61.2 | 1017.8 | 0.0 | 0.0 | 2.9 |
| 2023 | 03-05-2023 | 19 | 20 | 2.6 | 205.3 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 03-05-2023 | 19 | 21 | 2.3 | 188.2 | 26.2 | 57.2 | 1019.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 03-05-2023 | 19 | 22 | 6.4 | 128.9 | 25.3 | 53.2 | 1015.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 03-05-2023 | 19 | 23 | 2.6 | 188.9 | 23.2 | 48.2 | 1016.5 | 0.0 | 0.0 | 0.0 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 03-05-2023 | 19 | 24 | 2.8 | 188.4 | 19.2 | 54.6 | 1018.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 04-05-2023 | 20 | 1 | 2.9 | 254.6 | 18.8 | 41.6 | 1019.2 | 0.0 | 0.0 | 1.0 |
| 2023 | 04-05-2023 | 20 | 2 | 3.1 | 88.4 | 19.4 | 41.1 | 1018.4 | 0.0 | 0.0 | 3.4 |
| 2023 | 04-05-2023 | 20 | 3 | 3.0 | 158.6 | 20.4 | 42.7 | 1018.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 04-05-2023 | 20 | 4 | 4.2 | 188.7 | 21.8 | 44.5 | 1017.9 | 0.0 | 0.0 | 4.2 |
| 2023 | 04-05-2023 | 20 | 5 | 2.5 | 166.5 | 22.0 | 46.7 | 1019.2 | 452.2 | 0.0 | 5.2 |
| 2023 | 04-05-2023 | 20 | 6 | 2.6 | 177.5 | 22.4 | 47.5 | 1014.8 | 652.3 | 0.0 | 6.7 |
| 2023 | 04-05-2023 | 20 | 7 | 2.3 | 152.5 | 23.2 | 45.6 | 1017.2 | 443.0 | 0.0 | 7.4 |
| 2023 | 04-05-2023 | 20 | 8 | 6.4 | 146.8 | 24.6 | 43.9 | 1015.2 | 365.0 | 0.0 | 7.2 |
| 2023 | 04-05-2023 | 20 | 9 | 2.6 | 188.7 | 26.8 | 57.0 | 1014.8 | 682.0 | 0.0 | 4.7 |
| 2023 | 04-05-2023 | 20 | 10 | 2.8 | 166.5 | 28.4 | 60.2 | 1016.2 | 580.2 | 0.0 | 4.8 |
| 2023 | 04-05-2023 | 20 | 11 | 2.2 | 177.5 | 30.2 | 62.0 | 1014.8 | 485.2 | 0.0 | 7.2 |
| 2023 | 04-05-2023 | 20 | 12 | 3.2 | 152.5 | 31.2 | 63.2 | 1016.8 | 652.0 | 0.0 | 6.2 |
| 2023 | 04-05-2023 | 20 | 13 | 4.2 | 146.8 | 32.2 | 64.2 | 1017.8 | 458.0 | 0.0 | 4.2 |
| 2023 | 04-05-2023 | 20 | 14 | 3.4 | 158.6 | 32.4 | 64.2 | 1019.2 | 486.0 | 0.0 | 6.8 |
| 2023 | 04-05-2023 | 20 | 15 | 6.2 | 165.2 | 31.4 | 63.4 | 1019.8 | 658.0 | 0.0 | 4.8 |
| 2023 | 04-05-2023 | 20 | 16 | 4.2 | 205.3 | 30.2 | 60.2 | 1015.4 | 420.0 | 0.0 | 5.6 |
| 2023 | 04-05-2023 | 20 | 17 | 3.5 | 188.2 | 30.0 | 60.2 | 1016.5 | 458.2 | 0.0 | 4.8 |
| 2023 | 04-05-2023 | 20 | 18 | 2.4 | 128.9 | 29.8 | 61.2 | 1018.9 | 0.0 | 0.0 | 7.4 |
| 2023 | 04-05-2023 | 20 | 19 | 4.2 | 188.9 | 28.6 | 60.2 | 1021.2 | 0.0 | 0.0 | 5.4 |
| 2023 | 04-05-2023 | 20 | 20 | 2.8 | 83.7 | 27.6 | 58.0 | 1019.8 | 0.0 | 0.0 | 5.6 |
| 2023 | 04-05-2023 | 20 | 21 | 6.2 | 83.0 | 26.5 | 52.3 | 1018.9 | 0.0 | 0.0 | 5.8 |
| 2023 | 04-05-2023 | 20 | 22 | 3.4 | 101.4 | 25.3 | 52.3 | 1021.2 | 0.0 | 0.0 | 4.7 |
| 2023 | 04-05-2023 | 20 | 23 | 4.2 | 115.9 | 23.2 | 36.2 | 1021.6 | 0.0 | 0.0 | 7.2 |
| 2023 | 04-05-2023 | 20 | 24 | 5.2 | 109.0 | 18.4 | 46.9 | 1021.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 05-05-2023 | 21 | 1 | 3.4 | 88.6 | 18.4 | 48.2 | 1017.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 05-05-2023 | 21 | 2 | 4.8 | 120.2 | 18.8 | 65.2 | 1015.2 | 0.0 | 0.0 | 5.2 |
| 2023 | 05-05-2023 | 21 | 3 | 4.8 | 92.6 | 19.6 | 48.8 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 05-05-2023 | 21 | 4 | 3.8 | 110.2 | 22.4 | 49.2 | 1016.2 | 0.0 | 0.0 | 6.2 |
| 2023 | 05-05-2023 | 21 | 5 | 3.6 | 65.8 | 23.4 | 54.3 | 1014.8 | 458.2 | 0.0 | 4.2 |
| 2023 | 05-05-2023 | 21 | 6 | 5.2 | 86.7 | 26.8 | 62.1 | 1016.8 | 657.2 | 0.0 | 6.8 |
| 2023 | 05-05-2023 | 21 | 7 | 4.6 | 75.6 | 27.8 | 49.8 | 1017.8 | 542.3 | 0.0 | 7.2 |
| 2023 | 05-05-2023 | 21 | 8 | 4.3 | 99.2 | 28.0 | 52.0 | 1019.2 | 367.0 | 0.0 | 4.2 |
| 2023 | 05-05-2023 | 21 | 9 | 2.6 | 48.5 | 29.2 | 57.2 | 1019.8 | 564.7 | 0.0 | 3.6 |
| 2023 | 05-05-2023 | 21 | 10 | 3.2 | 140.6 | 29.6 | 60.2 | 1015.4 | 707.5 | 0.0 | 4.8 |
| 2023 | 05-05-2023 | 21 | 11 | 2.1 | 72.8 | 30.6 | 62.2 | 1016.5 | 782.3 | 0.0 | 6.7 |
| 2023 | 05-05-2023 | 21 | 12 | 2.8 | 70.6 | 30.8 | 63.3 | 1018.9 | 783.2 | 0.0 | 7.4 |
| 2023 | 05-05-2023 | 21 | 13 | 3.6 | 84.6 | 31.4 | 64.1 | 1021.2 | 709.9 | 0.0 | 4.8 |
| 2023 | 05-05-2023 | 21 | 14 | 2.4 | 82.3 | 32.8 | 64.3 | 1019.8 | 568.7 | 0.0 | 8.4 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 05-05-2023 | 21 | 15 | 4.6 | 90.2 | 33.2 | 63.8 | 1018.9 | 452.3 | 0.0 | 0.0 |
| 2023 | 05-05-2023 | 21 | 16 | 4.6 | 87.6 | 32.6 | 60.2 | 1021.2 | 523.1 | 0.0 | 0.0 |
| 2023 | 05-05-2023 | 21 | 17 | 3.8 | 92.6 | 32.0 | 62.2 | 1021.6 | 542.3 | 0.0 | 0.0 |
| 2023 | 05-05-2023 | 21 | 18 | 3.8 | 110.2 | 31.2 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 05-05-2023 | 21 | 19 | 4.6 | 65.8 | 29.8 | 61.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 05-05-2023 | 21 | 20 | 3.6 | 86.7 | 29.2 | 67.0 | 1019.2 | 0.0 | 0.0 | 2.6 |
| 2023 | 05-05-2023 | 21 | 21 | 5.2 | 75.6 | 27.6 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.3 |
| 2023 | 05-05-2023 | 21 | 22 | 4.6 | 99.2 | 27.1 | 53.2 | 1018.6 | 0.0 | 0.0 | 2.4 |
| 2023 | 05-05-2023 | 21 | 23 | 4.8 | 120.6 | 26.4 | 48.2 | 1017.9 | 0.0 | 0.0 | 3.2 |
| 2023 | 05-05-2023 | 21 | 24 | 4.8 | 68.5 | 26.0 | 42.4 | 1019.2 | 0.0 | 0.0 | 6.3 |
| 2023 | 06-05-2023 | 22 | 1 | 4.3 | 89.2 | 19.0 | 51.8 | 1014.8 | 0.0 | 0.0 | 6.4 |
| 2023 | 06-05-2023 | 22 | 2 | 4.6 | 88.4 | 19.4 | 52.2 | 1017.2 | 0.0 | 0.0 | 6.5 |
| 2023 | 06-05-2023 | 22 | 3 | 3.2 | 86.5 | 20.4 | 54.2 | 1015.2 | 0.0 | 0.0 | 5.5 |
| 2023 | 06-05-2023 | 22 | 4 | 6.3 | 83.5 | 22.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 06-05-2023 | 22 | 5 | 6.4 | 54.3 | 23.2 | 49.2 | 1016.2 | 540.2 | 0.0 | 4.3 |
| 2023 | 06-05-2023 | 22 | 6 | 6.5 | 33.8 | 23.6 | 54.3 | 1014.8 | 368.1 | 0.0 | 4.8 |
| 2023 | 06-05-2023 | 22 | 7 | 5.5 | 24.9 | 23.2 | 62.1 | 1016.8 | 565.8 | 0.0 | 6.5 |
| 2023 | 06-05-2023 | 22 | 8 | 4.6 | 54.8 | 24.6 | 49.8 | 1017.8 | 708.9 | 0.0 | 4.6 |
| 2023 | 06-05-2023 | 22 | 9 | 4.3 | 52.6 | 26.8 | 52.0 | 1019.2 | 565.8 | 0.0 | 5.8 |
| 2023 | 06-05-2023 | 22 | 10 | 4.8 | 39.3 | 28.4 | 57.2 | 1019.8 | 708.9 | 0.0 | 6.2 |
| 2023 | 06-05-2023 | 22 | 11 | 6.5 | 56.8 | 30.2 | 60.2 | 1015.4 | 785.0 | 0.0 | 6.3 |
| 2023 | 06-05-2023 | 22 | 12 | 4.6 | 88.2 | 31.2 | 62.2 | 1016.5 | 787.1 | 0.0 | 6.7 |
| 2023 | 06-05-2023 | 22 | 13 | 5.8 | 74.7 | 32.2 | 63.3 | 1018.9 | 713.9 | 0.0 | 7.4 |
| 2023 | 06-05-2023 | 22 | 14 | 6.2 | 68.4 | 33.8 | 64.1 | 1021.2 | 573.4 | 0.0 | 4.8 |
| 2023 | 06-05-2023 | 22 | 15 | 6.3 | 73.7 | 33.4 | 64.3 | 1019.8 | 376.7 | 0.0 | 8.4 |
| 2023 | 06-05-2023 | 22 | 16 | 4.8 | 65.9 | 32.4 | 63.8 | 1018.9 | 565.8 | 0.0 | 8.2 |
| 2023 | 06-05-2023 | 22 | 17 | 6.9 | 66.1 | 31.2 | 60.2 | 1021.2 | 708.9 | 0.0 | 7.4 |
| 2023 | 06-05-2023 | 22 | 18 | 6.4 | 68.4 | 30.2 | 62.2 | 1021.6 | 785.0 | 0.0 | 1.2 |
| 2023 | 06-05-2023 | 22 | 19 | 6.8 | 49.8 | 28.6 | 61.2 | 1021.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 06-05-2023 | 22 | 20 | 6.4 | 50.9 | 27.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 06-05-2023 | 22 | 21 | 5.6 | 66.4 | 26.5 | 67.0 | 1019.2 | 0.0 | 0.0 | 2.2 |
| 2023 | 06-05-2023 | 22 | 22 | 6.2 | 88.9 | 25.3 | 57.2 | 1018.4 | 0.0 | 0.0 | 4.6 |
| 2023 | 06-05-2023 | 22 | 23 | 5.7 | 104.2 | 23.2 | 53.2 | 1018.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 06-05-2023 | 22 | 24 | 6.3 | 102.6 | 18.4 | 48.2 | 1019.2 | 0.0 | 0.0 | 1.2 |
| 2023 | 07-05-2023 | 23 | 1 | 4.8 | 130.2 | 18.6 | 55.2 | 1017.2 | 0.0 | 0.0 | 2.0 |
| 2023 | 07-05-2023 | 23 | 2 | 5.8 | 222.5 | 18.8 | 65.2 | 1015.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 07-05-2023 | 23 | 3 | 6.2 | 125.8 | 19.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 1.0 |
| 2023 | 07-05-2023 | 23 | 4 | 6.2 | 164.8 | 20.4 | 49.2 | 1016.2 | 0.0 | 0.0 | 1.5 |
| 2023 | 07-05-2023 | 23 | 5 | 6.6 | 188.6 | 21.8 | 54.3 | 1014.8 | 523.0 | 0.0 | 4.1 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 07-05-2023 | 23 | 6 | 5.6 | 104.2 | 22.0 | 62.1 | 1016.8 | 483.5 | 0.0 | 4.8 |
| 2023 | 07-05-2023 | 23 | 7 | 6.1 | 102.6 | 22.4 | 49.8 | 1017.8 | 710.8 | 0.0 | 6.7 |
| 2023 | 07-05-2023 | 23 | 8 | 4.8 | 130.2 | 23.2 | 52.0 | 1019.2 | 786.7 | 0.0 | 6.4 |
| 2023 | 07-05-2023 | 23 | 9 | 3.5 | 222.5 | 24.6 | 57.2 | 1019.8 | 788.8 | 0.0 | 4.4 |
| 2023 | 07-05-2023 | 23 | 10 | 2.2 | 125.8 | 26.8 | 60.2 | 1015.4 | 716.2 | 0.0 | 4.3 |
| 2023 | 07-05-2023 | 23 | 11 | 3.2 | 164.8 | 28.4 | 62.2 | 1019.2 | 575.6 | 0.0 | 5.6 |
| 2023 | 07-05-2023 | 23 | 12 | 4.2 | 188.6 | 30.2 | 63.3 | 1018.9 | 379.2 | 0.0 | 7.0 |
| 2023 | 07-05-2023 | 23 | 13 | 2.5 | 232.6 | 31.2 | 64.1 | 1021.2 | 716.2 | 0.0 | 8.5 |
| 2023 | 07-05-2023 | 23 | 14 | 2.5 | 366.2 | 32.2 | 64.3 | 1019.8 | 575.6 | 0.0 | 8.5 |
| 2023 | 07-05-2023 | 23 | 15 | 2.9 | 334.5 | 32.4 | 63.8 | 1018.9 | 379.2 | 0.0 | 8.3 |
| 2023 | 07-05-2023 | 23 | 16 | 3.1 | 258.2 | 31.4 | 60.2 | 1021.2 | 423.0 | 0.0 | 7.2 |
| 2023 | 07-05-2023 | 23 | 17 | 3.0 | 254.6 | 30.2 | 62.2 | 1021.6 | 452.2 | 0.0 | 5.3 |
| 2023 | 07-05-2023 | 23 | 18 | 4.2 | 88.4 | 30.0 | 61.2 | 1020.4 | 0.0 | 0.0 | 1.0 |
| 2023 | 07-05-2023 | 23 | 19 | 1.6 | 158.6 | 29.8 | 61.2 | 1012.5 | 0.0 | 0.0 | 0.0 |
| 2023 | 07-05-2023 | 23 | 20 | 4.2 | 205.3 | 28.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 07-05-2023 | 23 | 21 | 2.0 | 201.6 | 27.6 | 57.2 | 1018.4 | 0.0 | 0.0 | 1.9 |
| 2023 | 07-05-2023 | 23 | 22 | 4.5 | 128.9 | 26.5 | 53.2 | 1018.6 | 0.0 | 0.0 | 6.7 |
| 2023 | 07-05-2023 | 23 | 23 | 4.1 | 188.9 | 25.3 | 48.2 | 1017.9 | 0.0 | 0.0 | 0.0 |
| 2023 | 07-05-2023 | 23 | 24 | 3.2 | 202.6 | 23.2 | 42.4 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 1 | 3.2 | 232.6 | 18.8 | 55.2 | 1016.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 2 | 4.8 | 256.2 | 19.4 | 65.2 | 1015.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 3 | 6.2 | 254.3 | 20.4 | 48.8 | 1019.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 4 | 6.2 | 258.2 | 21.8 | 49.2 | 1021.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 5 | 6.3 | 254.6 | 22.4 | 54.3 | 1020.5 | 372.7 | 0.0 | 0.0 |
| 2023 | 08-05-2023 | 24 | 6 | 5.6 | 188.2 | 23.2 | 62.1 | 1016.8 | 572.2 | 0.0 | 2.4 |
| 2023 | 08-05-2023 | 24 | 7 | 6.1 | 158.6 | 23.4 | 49.8 | 1017.8 | 716.5 | 0.0 | 6.4 |
| 2023 | 08-05-2023 | 24 | 8 | 4.8 | 168.4 | 24.6 | 52.0 | 1019.2 | 372.7 | 0.0 | 7.4 |
| 2023 | 08-05-2023 | 24 | 9 | 3.5 | 166.5 | 26.8 | 57.2 | 1019.8 | 572.2 | 0.0 | 5.8 |
| 2023 | 08-05-2023 | 24 | 10 | 4.6 | 177.5 | 28.4 | 60.2 | 1015.4 | 716.5 | 0.0 | 4.6 |
| 2023 | 08-05-2023 | 24 | 11 | 3.2 | 152.5 | 30.2 | 62.2 | 1019.2 | 792.8 | 0.0 | 2.2 |
| 2023 | 08-05-2023 | 24 | 12 | 4.2 | 144.3 | 31.2 | 63.3 | 1018.9 | 795.1 | 0.0 | 3.6 |
| 2023 | 08-05-2023 | 24 | 13 | 4.5 | 158.6 | 32.2 | 64.1 | 1021.2 | 723.2 | 0.0 | 5.2 |
| 2023 | 08-05-2023 | 24 | 14 | 4.1 | 165.2 | 32.4 | 64.3 | 1019.8 | 582.6 | 0.0 | 2.6 |
| 2023 | 08-05-2023 | 24 | 15 | 3.2 | 188.6 | 31.4 | 63.8 | 1018.9 | 385.5 | 0.0 | 2.3 |
| 2023 | 08-05-2023 | 24 | 16 | 3.2 | 182.6 | 30.2 | 60.2 | 1021.2 | 795.1 | 0.0 | 2.3 |
| 2023 | 08-05-2023 | 24 | 17 | 4.8 | 128.9 | 30.0 | 62.2 | 1021.6 | 723.2 | 0.0 | 2.1 |
| 2023 | 08-05-2023 | 24 | 18 | 6.2 | 188.9 | 29.8 | 61.2 | 1020.4 | 0.0 | 0.0 | 7.4 |
| 2023 | 08-05-2023 | 24 | 19 | 6.2 | 189.2 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 5.8 |
| 2023 | 08-05-2023 | 24 | 20 | 6.3 | 134.2 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 4.6 |

N.D. INTERNATIONAL KOLKATA

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 08-05-2023 | 24 | 21 | 5.6 | 198.2 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 2.2 |
| 2023 | 08-05-2023 | 24 | 22 | 6.1 | 125.8 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 3.6 |
| 2023 | 08-05-2023 | 24 | 23 | 4.8 | 164.8 | 23.2 | 48.2 | 1017.9 | 0.0 | 0.0 | 5.2 |
| 2023 | 08-05-2023 | 24 | 24 | 3.5 | 188.6 | 19.2 | 47.2 | 1020.3 | 0.0 | 0.0 | 2.6 |
| 2023 | 09-05-2023 | 25 | 1 | 4.6 | 88.6 | 19.2 | 55.2 | 1017.2 | 0.0 | 0.0 | 2.3 |
| 2023 | 09-05-2023 | 25 | 2 | 3.2 | 87.6 | 19.4 | 65.2 | 1015.2 | 0.0 | 0.0 | 2.3 |
| 2023 | 09-05-2023 | 25 | 3 | 4.4 | 92.6 | 20.4 | 48.8 | 1014.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 09-05-2023 | 25 | 4 | 2.6 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 2.5 |
| 2023 | 09-05-2023 | 25 | 5 | 3.6 | 65.8 | 22.0 | 54.3 | 1014.8 | 579.2 | 0.0 | 2.2 |
| 2023 | 09-05-2023 | 25 | 6 | 2.6 | 86.7 | 22.4 | 62.1 | 1016.8 | 548.3 | 0.0 | 2.2 |
| 2023 | 09-05-2023 | 25 | 7 | 4.6 | 75.6 | 23.2 | 49.8 | 1017.8 | 420.0 | 0.0 | 2.5 |
| 2023 | 09-05-2023 | 25 | 8 | 4.6 | 99.2 | 24.6 | 52.0 | 1019.2 | 372.0 | 0.0 | 5.6 |
| 2023 | 09-05-2023 | 25 | 9 | 3.8 | 48.5 | 26.8 | 57.2 | 1019.8 | 652.0 | 0.0 | 4.0 |
| 2023 | 09-05-2023 | 25 | 10 | 4.2 | 68.5 | 28.4 | 60.2 | 1015.4 | 458.0 | 0.0 | 6.3 |
| 2023 | 09-05-2023 | 25 | 11 | 2.6 | 72.8 | 30.2 | 62.2 | 1016.5 | 652.0 | 0.0 | 8.3 |
| 2023 | 09-05-2023 | 25 | 12 | 3.6 | 70.6 | 31.2 | 63.3 | 1018.9 | 456.2 | 2.2 | 6.4 |
| 2023 | 09-05-2023 | 25 | 13 | 5.2 | 84.6 | 32.2 | 64.1 | 1021.2 | 652.2 | 1.8 | 7.5 |
| 2023 | 09-05-2023 | 25 | 14 | 2.6 | 82.3 | 32.4 | 64.3 | 1019.8 | 426.8 | 2.1 | 8.4 |
| 2023 | 09-05-2023 | 25 | 15 | 4.6 | 90.2 | 31.4 | 63.8 | 1018.9 | 383.3 | 0.0 | 7.7 |
| 2023 | 09-05-2023 | 25 | 16 | 4.6 | 87.6 | 30.2 | 60.2 | 1021.2 | 540.2 | 0.0 | 4.7 |
| 2023 | 09-05-2023 | 25 | 17 | 3.8 | 92.6 | 30.0 | 62.2 | 1021.6 | 542.3 | 0.0 | 7.2 |
| 2023 | 09-05-2023 | 25 | 18 | 4.2 | 110.2 | 29.8 | 61.2 | 1021.8 | 0.0 | 0.0 | 5.6 |
| 2023 | 09-05-2023 | 25 | 19 | 2.6 | 65.8 | 28.6 | 61.2 | 1012.5 | 0.0 | 0.0 | 6.4 |
| 2023 | 09-05-2023 | 25 | 20 | 3.6 | 86.7 | 27.6 | 67.0 | 1019.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 09-05-2023 | 25 | 21 | 5.2 | 75.6 | 26.5 | 57.2 | 1018.4 | 0.0 | 0.0 | 5.6 |
| 2023 | 09-05-2023 | 25 | 22 | 4.6 | 99.2 | 25.3 | 53.2 | 1018.6 | 0.0 | 0.0 | 4.5 |
| 2023 | 09-05-2023 | 25 | 23 | 5.0 | 48.5 | 23.2 | 48.2 | 1017.9 | 0.0 | 2.3 | 2.8 |
| 2023 | 09-05-2023 | 25 | 24 | 5.2 | 68.5 | 18.0 | 42.4 | 1019.2 | 0.0 | 2.8 | 4.8 |
| 2023 | 10-05-2023 | 26 | 1 | 3.8 | 74.7 | 18.8 | 43.2 | 1014.8 | 0.0 | 3.4 | 7.2 |
| 2023 | 10-05-2023 | 26 | 2 | 4.2 | 67.7 | 19.2 | 46.4 | 1016.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 10-05-2023 | 26 | 3 | 2.6 | 66.1 | 23.0 | 47.1 | 1017.8 | 0.0 | 0.0 | 7.8 |
| 2023 | 10-05-2023 | 26 | 4 | 3.6 | 40.7 | 23.2 | 48.5 | 1019.2 | 0.0 | 2.8 | 8.2 |
| 2023 | 10-05-2023 | 26 | 5 | 5.2 | 84.2 | 23.4 | 46.5 | 1019.8 | 542.2 | 0.0 | 2.6 |
| 2023 | 10-05-2023 | 26 | 6 | 4.6 | 124.2 | 26.8 | 56.8 | 1015.4 | 458.7 | 0.0 | 6.4 |
| 2023 | 10-05-2023 | 26 | 7 | 5.0 | 4.9 | 27.8 | 57.6 | 1016.5 | 451.2 | 2.6 | 5.5 |
| 2023 | 10-05-2023 | 26 | 8 | 5.2 | 17.3 | 28.0 | 56.2 | 1018.9 | 370.2 | 0.0 | 3.6 |
| 2023 | 10-05-2023 | 26 | 9 | 3.8 | 41.7 | 29.2 | 61.2 | 1021.2 | 640.2 | 0.0 | 7.4 |
| 2023 | 10-05-2023 | 26 | 10 | 5.3 | 49.8 | 30.2 | 52.6 | 1019.8 | 580.2 | 2.4 | 8.4 |
| 2023 | 10-05-2023 | 26 | 11 | 5.6 | 62.6 | 30.6 | 62.8 | 1018.9 | 652.0 | 0.0 | 5.2 |

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An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 10-05-2023 | 26 | 12 | 5.2 | 60.8 | 30.8 | 62.4 | 1021.2 | 468.0 | 0.0 | 4.2 |
| 2023 | 10-05-2023 | 26 | 13 | 5.1 | 87.0 | 31.4 | 68.2 | 1021.6 | 628.0 | 0.0 | 0.0 |
| 2023 | 10-05-2023 | 26 | 14 | 4.2 | 116.6 | 33.6 | 63.8 | 1021.8 | 578.4 | 0.0 | 1.6 |
| 2023 | 10-05-2023 | 26 | 15 | 5.0 | 108.8 | 33.2 | 64.2 | 1012.5 | 384.0 | 0.0 | 5.9 |
| 2023 | 10-05-2023 | 26 | 16 | 3.6 | 88.6 | 32.6 | 65.0 | 1019.2 | 452.0 | 0.0 | 7.9 |
| 2023 | 10-05-2023 | 26 | 17 | 3.1 | 87.6 | 32.0 | 64.0 | 1018.4 | 436.2 | 0.0 | 7.6 |
| 2023 | 10-05-2023 | 26 | 18 | 2.7 | 92.6 | 31.2 | 62.3 | 1018.6 | 0.0 | 0.0 | 8.4 |
| 2023 | 10-05-2023 | 26 | 19 | 2.3 | 110.2 | 29.8 | 62.2 | 1017.9 | 0.0 | 0.0 | 7.1 |
| 2023 | 10-05-2023 | 26 | 20 | 2.8 | 65.8 | 29.2 | 61.2 | 1019.2 | 0.0 | 0.0 | 6.4 |
| 2023 | 10-05-2023 | 26 | 21 | 6.6 | 86.7 | 27.6 | 57.6 | 1015.2 | 0.0 | 0.0 | 4.5 |
| 2023 | 10-05-2023 | 26 | 22 | 6.2 | 75.6 | 27.1 | 54.2 | 1016.8 | 0.0 | 0.0 | 8.2 |
| 2023 | 10-05-2023 | 26 | 23 | 4.8 | 120.4 | 26.4 | 52.6 | 1017.6 | 0.0 | 0.0 | 5.2 |
| 2023 | 10-05-2023 | 26 | 24 | 5.2 | 98.8 | 26.0 | 57.5 | 1014.8 | 0.0 | 0.0 | 4.8 |
| 2023 | 11-05-2023 | 27 | 1 | 4.2 | 88.6 | 19.0 | 55.2 | 1017.2 | 0.0 | 0.0 | 7.6 |
| 2023 | 11-05-2023 | 27 | 2 | 3.2 | 120.2 | 19.4 | 65.2 | 1015.2 | 0.0 | 1.2 | 2.4 |
| 2023 | 11-05-2023 | 27 | 3 | 2.9 | 92.6 | 20.2 | 48.8 | 1014.8 | 0.0 | 3.2 | 2.6 |
| 2023 | 11-05-2023 | 27 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1016.2 | 0.0 | 0.0 | 2.8 |
| 2023 | 11-05-2023 | 27 | 5 | 3.6 | 65.8 | 23.2 | 54.3 | 1014.8 | 452.3 | 0.0 | 4.2 |
| 2023 | 11-05-2023 | 27 | 6 | 5.2 | 86.7 | 23.6 | 56.2 | 1016.8 | 658.1 | 0.0 | 2.6 |
| 2023 | 11-05-2023 | 27 | 7 | 4.6 | 106.0 | 23.8 | 49.8 | 1017.8 | 542.3 | 0.0 | 0.0 |
| 2023 | 11-05-2023 | 27 | 8 | 4.6 | 99.2 | 24.6 | 52.0 | 1019.2 | 280.2 | 0.0 | 0.0 |
| 2023 | 11-05-2023 | 27 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1016.8 | 568.4 | 0.0 | 0.0 |
| 2023 | 11-05-2023 | 27 | 10 | 3.2 | 120.0 | 28.4 | 60.2 | 1017.6 | 680.2 | 0.0 | 2.8 |
| 2023 | 11-05-2023 | 27 | 11 | 2.1 | 124.0 | 30.8 | 62.2 | 1014.8 | 645.8 | 0.0 | 6.2 |
| 2023 | 11-05-2023 | 27 | 12 | 2.6 | 70.6 | 31.2 | 64.2 | 1017.2 | 790.9 | 0.0 | 4.5 |
| 2023 | 11-05-2023 | 27 | 13 | 3.6 | 124.0 | 32.2 | 64.1 | 1015.2 | 625.2 | 0.0 | 6.2 |
| 2023 | 11-05-2023 | 27 | 14 | 2.4 | 102.0 | 33.2 | 64.3 | 1014.8 | 582.9 | 0.0 | 3.8 |
| 2023 | 11-05-2023 | 27 | 15 | 4.6 | 122.0 | 31.4 | 63.8 | 1016.2 | 344.2 | 0.0 | 7.2 |
| 2023 | 11-05-2023 | 27 | 16 | 1.3 | 106.0 | 32.3 | 15.0 | 1014.8 | 358.2 | 0.0 | 4.2 |
| 2023 | 11-05-2023 | 27 | 17 | 0.6 | 99.2 | 32.0 | 15.1 | 1016.8 | 320.0 | 0.0 | 3.2 |
| 2023 | 11-05-2023 | 27 | 18 | 1.5 | 48.5 | 31.3 | 16.2 | 1017.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 11-05-2023 | 27 | 19 | 0.9 | 120.0 | 30.2 | 17.3 | 1019.2 | 0.0 | 0.0 | 4.5 |
| 2023 | 11-05-2023 | 27 | 20 | 1.7 | 124.0 | 30.0 | 22.6 | 1019.8 | 0.0 | 0.0 | 5.9 |
| 2023 | 11-05-2023 | 27 | 21 | 2.5 | 70.6 | 29.6 | 52.0 | 1015.4 | 0.0 | 0.0 | 7.9 |
| 2023 | 11-05-2023 | 27 | 22 | 3.3 | 124.0 | 28.4 | 71.9 | 1016.5 | 0.0 | 0.0 | 7.6 |
| 2023 | 11-05-2023 | 27 | 23 | 2.7 | 102.0 | 25.2 | 56.2 | 1018.9 | 0.0 | 0.0 | 8.4 |
| 2023 | 11-05-2023 | 27 | 24 | 2.3 | 122.0 | 24.6 | 57.3 | 1008.0 | 0.0 | 0.0 | 7.1 |
| 2023 | 12-05-2023 | 28 | 1 | 1.7 | 124.0 | 19.2 | 41.6 | 1008.0 | 0.0 | 0.0 | 6.4 |
| 2023 | 12-05-2023 | 28 | 2 | 4.6 | 102.0 | 2.0 | 41.1 | 1007.8 | 0.0 | 0.0 | 4.5 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 12-05-2023 | 28 | 3 | 2.8 | 122.0 | 22.4 | 42.7 | 1011.0 | 0.0 | 0.0 | 8.2 |
| 2023 | 12-05-2023 | 28 | 4 | 5.4 | 106.0 | 23.3 | 44.5 | 1005.6 | 0.0 | 0.0 | 5.2 |
| 2023 | 12-05-2023 | 28 | 5 | 4.6 | 99.2 | 24.0 | 46.7 | 1012.4 | 0.0 | 0.0 | 4.8 |
| 2023 | 12-05-2023 | 28 | 6 | 3.8 | 48.5 | 24.0 | 47.5 | 1007.6 | 0.0 | 1.8 | 7.6 |
| 2023 | 12-05-2023 | 28 | 7 | 4.5 | 120.0 | 25.2 | 45.6 | 1008.0 | 520.2 | 2.0 | 2.4 |
| 2023 | 12-05-2023 | 28 | 8 | 7.2 | 124.0 | 26.0 | 48.7 | 1008.0 | 354.0 | 1.8 | 2.6 |
| 2023 | 12-05-2023 | 28 | 9 | 6.2 | 70.6 | 27.4 | 54.2 | 1007.8 | 286.0 | 2.6 | 2.8 |
| 2023 | 12-05-2023 | 28 | 10 | 4.5 | 124.0 | 28.2 | 60.2 | 1011.0 | 423.0 | 2.8 | 4.2 |
| 2023 | 12-05-2023 | 28 | 11 | 5.4 | 102.0 | 28.6 | 60.2 | 1005.6 | 632.0 | 0.0 | 2.6 |
| 2023 | 12-05-2023 | 28 | 12 | 2.5 | 122.0 | 30.2 | 62.0 | 1009.0 | 523.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 13 | 4.2 | 188.0 | 30.4 | 64.2 | 1007.6 | 482.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 14 | 3.5 | 129.0 | 31.4 | 63.0 | 1005.2 | 502.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 15 | 3.8 | 100.2 | 31.4 | 63.4 | 1007.2 | 152.2 | 0.0 | 2.8 |
| 2023 | 12-05-2023 | 28 | 16 | 4.6 | 69.3 | 30.2 | 60.2 | 1008.0 | 156.2 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 17 | 3.8 | 109.0 | 29.8 | 60.2 | 1008.0 | 238.1 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 18 | 2.6 | 120.2 | 30.2 | 61.2 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 19 | 3.4 | 124.0 | 29.4 | 60.2 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 20 | 3.4 | 82.7 | 28.2 | 58.0 | 1005.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 21 | 5.2 | 102.0 | 28.0 | 52.3 | 1012.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 22 | 2.7 | 82.3 | 26.0 | 52.3 | 1007.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 23 | 2.3 | 206.4 | 26.0 | 36.2 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 12-05-2023 | 28 | 24 | 4.6 | 120.2 | 24.2 | 46.9 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 1 | 3.8 | 92.6 | 22.2 | 48.2 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 2 | 4.5 | 124.0 | 23.0 | 65.2 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 3 | 7.2 | 70.6 | 23.6 | 48.8 | 1005.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 4 | 6.2 | 124.0 | 24.0 | 49.2 | 1012.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 5 | 4.5 | 102.0 | 21.0 | 54.3 | 1009.0 | 542.3 | 2.2 | 0.0 |
| 2023 | 13-05-2023 | 1 | 6 | 5.4 | 122.0 | 22.9 | 62.1 | 1007.6 | 548.2 | 1.8 | 0.0 |
| 2023 | 13-05-2023 | 1 | 7 | 2.5 | 106.0 | 23.4 | 49.8 | 1005.2 | 563.2 | 3.2 | 6.2 |
| 2023 | 13-05-2023 | 1 | 8 | 4.2 | 99.2 | 24.0 | 52.0 | 1007.2 | 458.3 | 1.6 | 2.1 |
| 2023 | 13-05-2023 | 1 | 9 | 3.5 | 144.8 | 26.0 | 57.2 | 1008.0 | 652.3 | 4.2 | 4.8 |
| 2023 | 13-05-2023 | 1 | 10 | 3.8 | 70.6 | 28.1 | 60.2 | 1008.0 | 458.2 | 0.0 | 6.2 |
| 2023 | 13-05-2023 | 1 | 11 | 4.6 | 124.0 | 29.8 | 62.2 | 1007.8 | 548.2 | 0.0 | 5.2 |
| 2023 | 13-05-2023 | 1 | 12 | 3.8 | 102.0 | 30.2 | 63.3 | 1011.0 | 478.9 | 0.0 | 4.2 |
| 2023 | 13-05-2023 | 1 | 13 | 2.6 | 122.0 | 30.6 | 64.1 | 1005.6 | 572.3 | 0.0 | 3.4 |
| 2023 | 13-05-2023 | 1 | 14 | 3.4 | 106.0 | 31.2 | 64.3 | 1012.4 | 652.2 | 0.0 | 4.6 |
| 2023 | 13-05-2023 | 1 | 15 | 3.4 | 99.2 | 32.2 | 63.8 | 1007.6 | 446.2 | 0.0 | 6.2 |
| 2023 | 13-05-2023 | 1 | 16 | 5.2 | 144.8 | 32.6 | 60.2 | 1008.0 | 542.0 | 0.0 | 4.2 |
| 2023 | 13-05-2023 | 1 | 17 | 2.7 | 120.0 | 32.6 | 62.2 | 1008.0 | 444.2 | 0.0 | 7.2 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 13-05-2023 | 1 | 18 | 2.3 | 124.0 | 31.4 | 61.2 | 1007.8 | 560.2 | 0.0 | 4.8 |
| 2023 | 13-05-2023 | 1 | 19 | 2.6 | 70.6 | 30.1 | 61.2 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 13-05-2023 | 1 | 20 | 3.4 | 124.0 | 28.9 | 67.0 | 1005.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 13-05-2023 | 1 | 21 | 3.4 | 102.0 | 28.0 | 57.2 | 1012.4 | 0.0 | 0.0 | 4.4 |
| 2023 | 13-05-2023 | 1 | 22 | 5.2 | 93.7 | 26.7 | 53.2 | 1014.8 | 0.0 | 2.2 | 6.4 |
| 2023 | 13-05-2023 | 1 | 23 | 2.7 | 102.0 | 25.8 | 48.2 | 1016.2 | 0.0 | 2.1 | 5.2 |
| 2023 | 13-05-2023 | 1 | 24 | 2.3 | 122.0 | 24.9 | 42.4 | 1014.8 | 0.0 | 1.8 | 7.2 |
| 2023 | 14-05-2023 | 2 | 1 | 4.6 | 106.0 | 24.5 | 51.8 | 1016.8 | 0.0 | 1.0 | 8.4 |
| 2023 | 14-05-2023 | 2 | 2 | 3.8 | 99.2 | 24.1 | 52.2 | 1008.0 | 0.0 | 3.4 | 0.0 |
| 2023 | 14-05-2023 | 2 | 3 | 4.5 | 48.5 | 23.8 | 54.2 | 1008.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 14-05-2023 | 2 | 4 | 7.2 | 120.0 | 23.4 | 48.8 | 1007.8 | 0.0 | 2.4 | 4.2 |
| 2023 | 14-05-2023 | 2 | 5 | 6.2 | 124.0 | 23.0 | 49.2 | 1011.0 | 560.2 | 3.6 | 7.2 |
| 2023 | 14-05-2023 | 2 | 6 | 4.5 | 70.6 | 22.8 | 54.3 | 1005.6 | 4520.0 | 4.8 | 4.8 |
| 2023 | 14-05-2023 | 2 | 7 | 5.4 | 124.0 | 24.3 | 62.1 | 1012.4 | 354.0 | 2.2 | 0.0 |
| 2023 | 14-05-2023 | 2 | 8 | 2.5 | 102.0 | 25.8 | 49.8 | 1007.6 | 286.0 | 1.8 | 4.6 |
| 2023 | 14-05-2023 | 2 | 9 | 4.2 | 93.7 | 28.0 | 52.0 | 1008.0 | 423.0 | 0.0 | 4.4 |
| 2023 | 14-05-2023 | 2 | 10 | 3.5 | 102.0 | 29.8 | 57.2 | 1008.0 | 632.0 | 0.0 | 6.4 |
| 2023 | 14-05-2023 | 2 | 11 | 3.8 | 122.0 | 31.7 | 60.2 | 1007.8 | 523.0 | 0.0 | 5.2 |
| 2023 | 14-05-2023 | 2 | 12 | 4.6 | 106.0 | 32.9 | 62.2 | 1011.0 | 482.0 | 0.0 | 7.2 |
| 2023 | 14-05-2023 | 2 | 13 | 3.8 | 99.2 | 34.0 | 63.3 | 1005.6 | 502.0 | 0.0 | 8.4 |
| 2023 | 14-05-2023 | 2 | 14 | 3.1 | 48.5 | 34.3 | 64.1 | 1009.0 | 548.2 | 0.0 | 0.0 |
| 2023 | 14-05-2023 | 2 | 15 | 1.6 | 120.0 | 34.4 | 64.3 | 1007.6 | 423.1 | 0.0 | 2.2 |
| 2023 | 14-05-2023 | 2 | 16 | 2.4 | 124.0 | 34.5 | 63.8 | 1005.2 | 560.2 | 0.0 | 4.2 |
| 2023 | 14-05-2023 | 2 | 17 | 4.4 | 70.6 | 33.7 | 60.2 | 1007.2 | 633.2 | 0.0 | 1.8 |
| 2023 | 14-05-2023 | 2 | 18 | 3.0 | 124.0 | 32.6 | 62.2 | 1008.0 | 654.3 | 0.0 | 2.2 |
| 2023 | 14-05-2023 | 2 | 19 | 3.5 | 102.0 | 31.2 | 61.2 | 1008.0 | 0.0 | 0.0 | 4.2 |
| 2023 | 14-05-2023 | 2 | 20 | 3.6 | 93.7 | 30.1 | 61.2 | 1007.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 14-05-2023 | 2 | 21 | 3.6 | 209.4 | 29.3 | 67.0 | 1011.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 14-05-2023 | 2 | 22 | 5.2 | 48.5 | 28.4 | 57.2 | 1005.6 | 0.0 | 0.0 | 6.4 |
| 2023 | 14-05-2023 | 2 | 23 | 2.7 | 120.0 | 26.5 | 53.2 | 1012.4 | 0.0 | 0.0 | 4.6 |
| 2023 | 14-05-2023 | 2 | 24 | 2.3 | 124.0 | 25.7 | 48.2 | 1009.0 | 0.0 | 0.0 | 3.8 |
| 2023 | 15-05-2023 | 3 | 1 | 2.6 | 70.6 | 25.3 | 55.2 | 1007.6 | 0.0 | 0.0 | 4.5 |
| 2023 | 15-05-2023 | 3 | 2 | 3.4 | 124.0 | 25.4 | 65.2 | 1005.2 | 0.0 | 0.0 | 7.2 |
| 2023 | 15-05-2023 | 3 | 3 | 3.4 | 102.0 | 25.3 | 48.8 | 1007.2 | 0.0 | 0.0 | 6.2 |
| 2023 | 15-05-2023 | 3 | 4 | 5.2 | 93.7 | 24.5 | 49.2 | 1008.0 | 0.0 | 0.0 | 4.5 |
| 2023 | 15-05-2023 | 3 | 5 | 2.3 | 102.0 | 24.2 | 54.3 | 1008.0 | 542.3 | 0.0 | 5.4 |
| 2023 | 15-05-2023 | 3 | 6 | 2.8 | 122.0 | 23.7 | 62.1 | 1007.8 | 482.3 | 0.0 | 2.5 |
| 2023 | 15-05-2023 | 3 | 7 | 4.6 | 106.0 | 26.2 | 49.8 | 1011.0 | 652.2 | 0.0 | 4.2 |
| 2023 | 15-05-2023 | 3 | 8 | 3.8 | 99.2 | 27.3 | 52.0 | 1005.6 | 398.2 | 0.0 | 3.5 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 15-05-2023 | 3 | 9 | 4.5 | 48.5 | 29.3 | 57.2 | 1012.4 | 511.6 | 0.0 | 3.8 |
| 2023 | 15-05-2023 | 3 | 10 | 7.2 | 120.0 | 30.9 | 60.2 | 1007.6 | 412.2 | 0.0 | 4.6 |
| 2023 | 15-05-2023 | 3 | 11 | 6.2 | 124.0 | 32.3 | 62.2 | 1008.0 | 398.2 | 0.0 | 3.8 |
| 2023 | 15-05-2023 | 3 | 12 | 4.5 | 70.6 | 33.2 | 63.3 | 1008.0 | 511.6 | 0.0 | 2.6 |
| 2023 | 15-05-2023 | 3 | 13 | 5.4 | 124.0 | 33.7 | 64.1 | 1007.8 | 412.2 | 0.0 | 2.2 |
| 2023 | 15-05-2023 | 3 | 14 | 2.5 | 102.0 | 34.4 | 64.3 | 1011.0 | 452.3 | 0.0 | 0.0 |
| 2023 | 15-05-2023 | 3 | 15 | 4.2 | 93.7 | 34.6 | 63.8 | 1005.6 | 458.2 | 0.0 | 7.4 |
| 2023 | 15-05-2023 | 3 | 16 | 3.5 | 102.0 | 34.3 | 60.2 | 1012.4 | 385.2 | 0.0 | 6.2 |
| 2023 | 15-05-2023 | 3 | 17 | 3.8 | 122.0 | 33.7 | 62.2 | 1007.6 | 285.3 | 0.0 | 4.5 |
| 2023 | 15-05-2023 | 3 | 18 | 4.6 | 106.0 | 32.4 | 61.2 | 1008.0 | 488.7 | 0.0 | 5.8 |
| 2023 | 15-05-2023 | 3 | 19 | 3.8 | 99.2 | 31.1 | 61.2 | 1008.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 15-05-2023 | 3 | 20 | 2.6 | 345.8 | 30.1 | 67.0 | 1007.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 15-05-2023 | 3 | 21 | 2.2 | 343.4 | 29.3 | 57.2 | 1011.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 15-05-2023 | 3 | 22 | 2.2 | 340.6 | 28.8 | 53.2 | 1005.6 | 0.0 | 0.0 | 6.2 |
| 2023 | 15-05-2023 | 3 | 23 | 2.0 | 318.7 | 27.8 | 48.2 | 1006.0 | 0.0 | 0.0 | 4.5 |
| 2023 | 15-05-2023 | 3 | 24 | 2.8 | 232.3 | 26.5 | 42.4 | 1005.0 | 0.0 | 0.0 | 5.8 |
| 2023 | 16-05-2023 | 4 | 1 | 4.2 | 88.6 | 19.0 | 55.2 | 1005.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 16-05-2023 | 4 | 2 | 3.2 | 120.2 | 19.8 | 65.2 | 1005.6 | 0.0 | 1.2 | 3.2 |
| 2023 | 16-05-2023 | 4 | 3 | 2.9 | 92.6 | 20.2 | 48.8 | 1012.4 | 0.0 | 3.2 | 2.6 |
| 2023 | 16-05-2023 | 4 | 4 | 3.8 | 110.2 | 21.8 | 49.2 | 1007.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 16-05-2023 | 4 | 5 | 3.6 | 65.8 | 23.2 | 54.3 | 1008.0 | 568.4 | 0.0 | 4.2 |
| 2023 | 16-05-2023 | 4 | 6 | 5.2 | 86.7 | 23.4 | 56.2 | 1008.0 | 680.2 | 0.0 | 2.6 |
| 2023 | 16-05-2023 | 4 | 7 | 4.6 | 106.0 | 23.8 | 48.0 | 1007.8 | 645.8 | 0.0 | 4.5 |
| 2023 | 16-05-2023 | 4 | 8 | 4.6 | 99.2 | 24.6 | 52.0 | 1011.0 | 790.9 | 0.0 | 5.8 |
| 2023 | 16-05-2023 | 4 | 9 | 2.6 | 48.5 | 26.8 | 57.2 | 1005.6 | 625.2 | 0.0 | 4.6 |
| 2023 | 16-05-2023 | 4 | 10 | 3.2 | 120.0 | 28.4 | 60.2 | 1006.0 | 680.2 | 0.0 | 3.2 |
| 2023 | 16-05-2023 | 4 | 11 | 2.1 | 124.0 | 30.8 | 62.2 | 1005.0 | 645.8 | 0.0 | 2.6 |
| 2023 | 16-05-2023 | 4 | 12 | 2.6 | 70.6 | 31.2 | 64.2 | 1005.2 | 790.9 | 0.0 | 4.2 |
| 2023 | 16-05-2023 | 4 | 13 | 3.6 | 124.0 | 32.2 | 64.1 | 1008.2 | 625.2 | 0.0 | 6.2 |
| 2023 | 16-05-2023 | 4 | 14 | 2.4 | 102.0 | 33.2 | 64.3 | 1004.2 | 582.9 | 0.0 | 3.8 |
| 2023 | 16-05-2023 | 4 | 15 | 4.6 | 122.0 | 31.4 | 63.8 | 1016.2 | 344.2 | 0.0 | 7.2 |
| 2023 | 16-05-2023 | 4 | 16 | 1.3 | 106.0 | 32.3 | 15.0 | 1014.8 | 312.2 | 0.0 | 4.2 |
| 2023 | 16-05-2023 | 4 | 17 | 0.6 | 99.2 | 32.0 | 15.1 | 1016.8 | 320.0 | 0.0 | 3.2 |
| 2023 | 16-05-2023 | 4 | 18 | 1.5 | 48.5 | 31.3 | 16.2 | 1017.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 16-05-2023 | 4 | 19 | 0.9 | 120.0 | 30.2 | 17.3 | 1019.2 | 0.0 | 0.0 | 4.5 |
| 2023 | 16-05-2023 | 4 | 20 | 1.7 | 124.0 | 30.0 | 22.6 | 1019.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 16-05-2023 | 4 | 21 | 2.5 | 70.6 | 29.6 | 52.0 | 1015.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 16-05-2023 | 4 | 22 | 3.3 | 124.0 | 28.4 | 71.9 | 1016.5 | 0.0 | 0.0 | 4.4 |
| 2023 | 16-05-2023 | 4 | 23 | 2.7 | 102.0 | 25.2 | 56.2 | 1018.9 | 0.0 | 0.0 | 3.6 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

Authorised Signatory

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob.: 9830654565, 9830789456
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# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 16-05-2023 | 4 | 24 | 2.3 | 122.0 | 24.6 | 57.3 | 1008.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 17-05-2023 | 5 | 1 | 2.8 | 124.0 | 19.2 | 41.6 | 1008.0 | 0.0 | 0.0 | 5.2 |
| 2023 | 17-05-2023 | 5 | 2 | 2.6 | 156.0 | 2.0 | 41.1 | 1007.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 17-05-2023 | 5 | 3 | 3.4 | 122.0 | 22.4 | 42.7 | 1011.0 | 0.0 | 0.0 | 3.2 |
| 2023 | 17-05-2023 | 5 | 4 | 2.8 | 106.0 | 23.3 | 44.5 | 1005.6 | 0.0 | 0.0 | 7.8 |
| 2023 | 17-05-2023 | 5 | 5 | 3.4 | 102.2 | 24.0 | 46.7 | 1012.4 | 452.2 | 0.0 | 4.2 |
| 2023 | 17-05-2023 | 5 | 6 | 2.6 | 144.2 | 24.0 | 47.5 | 1007.6 | 354.0 | 2.2 | 4.9 |
| 2023 | 17-05-2023 | 5 | 7 | 4.2 | 120.0 | 25.2 | 45.6 | 1008.0 | 286.0 | 2.6 | 4.4 |
| 2023 | 17-05-2023 | 5 | 8 | 3.6 | 124.0 | 26.0 | 48.7 | 1008.0 | 423.0 | 1.8 | 3.6 |
| 2023 | 17-05-2023 | 5 | 9 | 3.8 | 70.6 | 27.4 | 54.2 | 1007.8 | 632.0 | 2.6 | 7.4 |
| 2023 | 17-05-2023 | 5 | 10 | 5.2 | 124.0 | 28.2 | 60.2 | 1011.0 | 523.0 | 2.8 | 5.2 |
| 2023 | 17-05-2023 | 5 | 11 | 4.2 | 102.0 | 28.6 | 60.2 | 1005.6 | 482.0 | 0.0 | 4.6 |
| 2023 | 17-05-2023 | 5 | 12 | 6.0 | 122.0 | 30.2 | 62.0 | 1009.0 | 502.0 | 0.0 | 3.2 |
| 2023 | 17-05-2023 | 5 | 13 | 3.2 | 188.0 | 30.4 | 64.2 | 1007.6 | 152.2 | 0.0 | 7.8 |
| 2023 | 17-05-2023 | 5 | 14 | 4.2 | 129.0 | 31.4 | 63.0 | 1005.2 | 156.2 | 1.2 | 4.4 |
| 2023 | 17-05-2023 | 5 | 15 | 3.2 | 100.2 | 31.4 | 63.4 | 1007.2 | 238.1 | 0.0 | 3.6 |
| 2023 | 17-05-2023 | 5 | 16 | 4.6 | 162.3 | 30.2 | 60.2 | 1008.0 | 388.2 | 0.0 | 7.4 |
| 2023 | 17-05-2023 | 5 | 17 | 3.8 | 109.0 | 29.8 | 60.2 | 1008.0 | 682.6 | 0.0 | 5.2 |
| 2023 | 17-05-2023 | 5 | 18 | 4.6 | 120.2 | 30.2 | 61.2 | 1007.8 | 0.0 | 0.0 | 4.6 |
| 2023 | 17-05-2023 | 5 | 19 | 3.6 | 124.0 | 29.4 | 60.2 | 1011.0 | 0.0 | 2.2 | 3.2 |
| 2023 | 17-05-2023 | 5 | 20 | 3.4 | 182.0 | 28.2 | 58.0 | 1005.6 | 0.0 | 0.0 | 7.8 |
| 2023 | 17-05-2023 | 5 | 21 | 4.8 | 165.2 | 28.0 | 52.3 | 1012.4 | 0.0 | 0.0 | 2.2 |
| 2023 | 17-05-2023 | 5 | 22 | 3.6 | 188.2 | 26.0 | 52.3 | 1007.6 | 0.0 | 0.0 | 2.6 |
| 2023 | 17-05-2023 | 5 | 23 | 3.2 | 206.4 | 26.0 | 36.2 | 1008.0 | 0.0 | 0.0 | 4.8 |
| 2023 | 17-05-2023 | 5 | 24 | 4.2 | 122.2 | 24.2 | 46.9 | 1008.0 | 0.0 | 0.0 | 5.2 |
| 2023 | 18-05-2023 | 6 | 1 | 3.2 | 188.0 | 22.2 | 48.2 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-05-2023 | 6 | 2 | 4.6 | 129.0 | 23.0 | 65.2 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-05-2023 | 6 | 3 | 3.8 | 100.2 | 23.6 | 48.8 | 1005.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-05-2023 | 6 | 4 | 4.6 | 162.3 | 24.0 | 49.2 | 1012.4 | 0.0 | 0.0 | 0.0 |
| 2023 | 18-05-2023 | 6 | 5 | 3.6 | 109.0 | 21.0 | 54.3 | 1009.0 | 523.3 | 2.2 | 0.0 |
| 2023 | 18-05-2023 | 6 | 6 | 3.4 | 120.2 | 22.9 | 62.1 | 1007.6 | 530.2 | 2.4 | 0.0 |
| 2023 | 18-05-2023 | 6 | 7 | 4.8 | 124.0 | 23.4 | 49.8 | 1005.2 | 386.0 | 2.6 | 4.4 |
| 2023 | 18-05-2023 | 6 | 8 | 3.6 | 182.0 | 24.0 | 52.0 | 1007.2 | 292.3 | 1.8 | 7.6 |
| 2023 | 18-05-2023 | 6 | 9 | 2.6 | 165.2 | 26.0 | 57.2 | 1008.0 | 380.2 | 4.2 | 6.4 |
| 2023 | 18-05-2023 | 6 | 10 | 2.8 | 188.2 | 28.1 | 60.2 | 1008.0 | 632.0 | 0.0 | 6.2 |
| 2023 | 18-05-2023 | 6 | 11 | 3.8 | 206.4 | 29.8 | 62.2 | 1007.8 | 523.0 | 0.0 | 5.2 |
| 2023 | 18-05-2023 | 6 | 12 | 4.5 | 122.2 | 30.2 | 63.3 | 1011.0 | 523.3 | 0.0 | 2.8 |
| 2023 | 18-05-2023 | 6 | 13 | 7.2 | 92.6 | 30.6 | 64.1 | 1005.6 | 530.2 | 0.0 | 3.4 |
| 2023 | 18-05-2023 | 6 | 14 | 6.2 | 110.2 | 30.8 | 63.0 | 1012.4 | 386.0 | 2.4 | 4.6 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 18-05-2023 | 6 | 15 | 4.5 | 65.8 | 31.2 | 62.8 | 1007.6 | 292.3 | 0.0 | 6.2 |
| 2023 | 18-05-2023 | 6 | 16 | 5.4 | 86.7 | 30.2 | 60.2 | 1008.0 | 380.2 | 0.0 | 4.2 |
| 2023 | 18-05-2023 | 6 | 17 | 2.5 | 106.0 | 30.0 | 62.0 | 1005.6 | 452.0 | 0.0 | 6.4 |
| 2023 | 18-05-2023 | 6 | 18 | 4.2 | 124.0 | 29.6 | 57.2 | 1018.2 | 560.2 | 0.0 | 4.8 |
| 2023 | 18-05-2023 | 6 | 19 | 2.6 | 70.6 | 29.4 | 56.8 | 1009.0 | 0.0 | 0.0 | 6.4 |
| 2023 | 18-05-2023 | 6 | 20 | 4.5 | 124.0 | 28.8 | 60.0 | 1007.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 18-05-2023 | 6 | 21 | 5.4 | 102.0 | 28.0 | 58.6 | 1005.2 | 0.0 | 0.0 | 3.8 |
| 2023 | 18-05-2023 | 6 | 22 | 2.5 | 93.7 | 26.7 | 53.2 | 1007.2 | 0.0 | 2.4 | 4.6 |
| 2023 | 18-05-2023 | 6 | 23 | 4.2 | 102.0 | 25.8 | 48.2 | 1008.0 | 0.0 | 1.8 | 4.8 |
| 2023 | 18-05-2023 | 6 | 24 | 3.5 | 122.0 | 24.9 | 42.4 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 19-05-2023 | 7 | 1 | 3.8 | 106.0 | 21.2 | 48.2 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 19-05-2023 | 7 | 2 | 4.6 | 105.2 | 22.2 | 46.2 | 1011.0 | 0.0 | 2.8 | 0.0 |
| 2023 | 19-05-2023 | 7 | 3 | 3.8 | 142.2 | 22.4 | 47.0 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 19-05-2023 | 7 | 4 | 3.1 | 120.0 | 22.6 | 45.4 | 1007.8 | 0.0 | 2.4 | 0.0 |
| 2023 | 19-05-2023 | 7 | 5 | 1.6 | 124.0 | 23.4 | 47.3 | 1011.0 | 453.2 | 2.3 | 0.0 |
| 2023 | 19-05-2023 | 7 | 6 | 2.4 | 70.6 | 23.6 | 51.2 | 1005.6 | 450.0 | 4.8 | 0.0 |
| 2023 | 19-05-2023 | 7 | 7 | 4.4 | 124.0 | 24.2 | 49.8 | 1012.4 | 354.0 | 2.4 | 0.0 |
| 2023 | 19-05-2023 | 7 | 8 | 3.0 | 102.0 | 24.6 | 52.2 | 1007.6 | 286.0 | 1.8 | 4.6 |
| 2023 | 19-05-2023 | 7 | 9 | 3.5 | 192.2 | 25.2 | 52.0 | 1008.0 | 423.0 | 0.0 | 4.4 |
| 2023 | 19-05-2023 | 7 | 10 | 3.6 | 102.0 | 25.6 | 53.3 | 1008.0 | 632.0 | 0.0 | 6.4 |
| 2023 | 19-05-2023 | 7 | 11 | 3.6 | 122.0 | 25.8 | 52.3 | 1007.8 | 523.0 | 2.4 | 5.2 |
| 2023 | 19-05-2023 | 7 | 12 | 5.2 | 106.0 | 26.2 | 54.4 | 1011.0 | 482.0 | 0.0 | 7.2 |
| 2023 | 19-05-2023 | 7 | 13 | 2.7 | 98.0 | 26.3 | 53.2 | 1005.6 | 502.0 | 0.0 | 7.8 |
| 2023 | 19-05-2023 | 7 | 14 | 3.1 | 120.0 | 26.9 | 54.6 | 1009.0 | 420.3 | 0.0 | 6.4 |
| 2023 | 19-05-2023 | 7 | 15 | 1.6 | 120.0 | 27.2 | 55.2 | 1007.6 | 423.1 | 0.0 | 2.2 |
| 2023 | 19-05-2023 | 7 | 16 | 2.4 | 124.0 | 27.6 | 55.9 | 1005.2 | 560.2 | 0.0 | 4.2 |
| 2023 | 19-05-2023 | 7 | 17 | 4.4 | 70.6 | 28.0 | 60.0 | 1007.2 | 633.2 | 0.0 | 3.2 |
| 2023 | 19-05-2023 | 7 | 18 | 3.0 | 124.0 | 27.4 | 55.8 | 1008.0 | 654.3 | 0.0 | 2.2 |
| 2023 | 19-05-2023 | 7 | 19 | 2.6 | 102.0 | 26.2 | 53.3 | 1008.0 | 0.0 | 0.0 | 4.2 |
| 2023 | 19-05-2023 | 7 | 20 | 3.4 | 93.7 | 25.8 | 53.2 | 1007.8 | 0.0 | 0.0 | 4.2 |
| 2023 | 19-05-2023 | 7 | 21 | 4.2 | 182.2 | 24.6 | 49.3 | 1011.0 | 0.0 | 0.0 | 5.2 |
| 2023 | 19-05-2023 | 7 | 22 | 5.2 | 48.5 | 24.2 | 49.3 | 1005.6 | 0.0 | 0.0 | 7.2 |
| 2023 | 19-05-2023 | 7 | 23 | 7.2 | 120.0 | 23.2 | 46.3 | 1012.4 | 0.0 | 0.0 | 6.2 |
| 2023 | 19-05-2023 | 7 | 24 | 6.2 | 124.0 | 22.4 | 45.2 | 1009.0 | 0.0 | 0.0 | 4.5 |
| 2023 | 20-05-2023 | 8 | 1 | 4.5 | 70.6 | 19.0 | 55.2 | 1007.6 | 0.0 | 0.0 | 5.4 |
| 2023 | 20-05-2023 | 8 | 2 | 5.4 | 102.0 | 19.8 | 65.2 | 1005.2 | 0.0 | 0.0 | 2.5 |
| 2023 | 20-05-2023 | 8 | 3 | 2.5 | 93.7 | 20.2 | 48.8 | 1007.2 | 0.0 | 0.0 | 4.2 |
| 2023 | 20-05-2023 | 8 | 4 | 4.2 | 182.2 | 21.8 | 49.2 | 1008.0 | 0.0 | 0.0 | 2.6 |
| 2023 | 20-05-2023 | 8 | 5 | 2.6 | 48.5 | 23.2 | 54.3 | 1008.0 | 398.2 | 0.0 | 6.4 |

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035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 20-05-2023 | 8 | 6 | 4.5 | 120.0 | 23.4 | 62.1 | 1007.8 | 511.6 | 0.0 | 5.4 |
| 2023 | 20-05-2023 | 8 | 7 | 5.4 | 124.0 | 23.8 | 49.8 | 1011.0 | 412.2 | 0.0 | 2.5 |
| 2023 | 20-05-2023 | 8 | 8 | 2.5 | 70.6 | 24.6 | 52.0 | 1005.6 | 398.2 | 0.0 | 5.2 |
| 2023 | 20-05-2023 | 8 | 9 | 4.2 | 124.0 | 26.8 | 57.2 | 1012.4 | 511.6 | 0.0 | 3.5 |
| 2023 | 20-05-2023 | 8 | 10 | 3.5 | 102.0 | 27.2 | 60.2 | 1007.6 | 412.2 | 0.0 | 3.8 |
| 2023 | 20-05-2023 | 8 | 11 | 3.8 | 93.7 | 27.6 | 62.2 | 1008.0 | 285.3 | 0.0 | 4.8 |
| 2023 | 20-05-2023 | 8 | 12 | 4.6 | 102.0 | 28.2 | 63.3 | 1008.0 | 488.7 | 0.0 | 3.8 |
| 2023 | 20-05-2023 | 8 | 13 | 3.8 | 122.0 | 28.4 | 64.1 | 1007.8 | 398.2 | 0.0 | 0.0 |
| 2023 | 20-05-2023 | 8 | 14 | 3.1 | 106.0 | 28.9 | 64.3 | 1011.0 | 511.6 | 0.0 | 7.2 |
| 2023 | 20-05-2023 | 8 | 15 | 1.6 | 99.2 | 28.4 | 63.8 | 1005.6 | 652.3 | 0.0 | 7.4 |
| 2023 | 20-05-2023 | 8 | 16 | 2.4 | 48.5 | 28.0 | 60.2 | 1012.4 | 385.2 | 0.0 | 6.4 |
| 2023 | 20-05-2023 | 8 | 17 | 4.4 | 120.0 | 27.6 | 62.2 | 1007.6 | 285.3 | 0.0 | 4.5 |
| 2023 | 20-05-2023 | 8 | 18 | 3.0 | 124.0 | 26.2 | 61.2 | 1008.0 | 488.7 | 0.0 | 5.8 |
| 2023 | 20-05-2023 | 8 | 19 | 3.5 | 99.2 | 25.6 | 61.2 | 1008.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 20-05-2023 | 8 | 20 | 3.6 | 345.8 | 24.8 | 67.0 | 1007.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 20-05-2023 | 8 | 21 | 3.6 | 282.0 | 24.6 | 57.2 | 1011.0 | 0.0 | 0.0 | 3.8 |
| 2023 | 20-05-2023 | 8 | 22 | 5.2 | 246.0 | 24.3 | 53.2 | 1005.6 | 0.0 | 0.0 | 4.8 |
| 2023 | 20-05-2023 | 8 | 23 | 2.6 | 238.0 | 23.8 | 48.2 | 1012.4 | 0.0 | 0.0 | 3.8 |
| 2023 | 20-05-2023 | 8 | 24 | 2.2 | 232.3 | 22.1 | 42.4 | 1007.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 21-05-2023 | 9 | 1 | 2.5 | 238.3 | 21.2 | 48.3 | 1008.0 | 0.0 | 0.0 | 7.2 |
| 2023 | 21-05-2023 | 9 | 2 | 2.0 | 213.5 | 22.2 | 50.3 | 1008.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 21-05-2023 | 9 | 3 | 2.2 | 251.0 | 22.4 | 52.1 | 1007.8 | 0.0 | 0.0 | 6.4 |
| 2023 | 21-05-2023 | 9 | 4 | 2.0 | 255.0 | 22.6 | 51.8 | 1011.0 | 0.0 | 0.0 | 4.5 |
| 2023 | 21-05-2023 | 9 | 5 | 2.5 | 250.7 | 23.4 | 50.3 | 1005.6 | 452.2 | 0.0 | 5.8 |
| 2023 | 21-05-2023 | 9 | 6 | 2.7 | 259.3 | 23.6 | 44.1 | 1012.4 | 488.7 | 0.0 | 4.3 |
| 2023 | 21-05-2023 | 9 | 7 | 2.8 | 176.3 | 24.2 | 39.6 | 1007.6 | 398.2 | 0.0 | 2.4 |
| 2023 | 21-05-2023 | 9 | 8 | 3.2 | 142.8 | 24.6 | 35.9 | 1008.0 | 511.6 | 2.3 | 8.2 |
| 2023 | 21-05-2023 | 9 | 9 | 4.2 | 162.3 | 25.2 | 30.7 | 1008.0 | 412.2 | 2.4 | 6.8 |
| 2023 | 21-05-2023 | 9 | 10 | 3.6 | 192.0 | 25.6 | 26.8 | 1007.8 | 398.2 | 1.8 | 4.6 |
| 2023 | 21-05-2023 | 9 | 11 | 2.8 | 195.7 | 25.8 | 23.8 | 1011.0 | 511.6 | 0.0 | 7.4 |
| 2023 | 21-05-2023 | 9 | 12 | 4.6 | 229.9 | 26.2 | 20.6 | 1005.6 | 511.6 | 0.0 | 4.6 |
| 2023 | 21-05-2023 | 9 | 13 | 5.2 | 209.7 | 26.3 | 48.2 | 1012.4 | 412.2 | 0.0 | 5.2 |
| 2023 | 21-05-2023 | 9 | 14 | 4.2 | 213.5 | 26.9 | 52.2 | 1009.0 | 398.2 | 0.0 | 6.4 |
| 2023 | 21-05-2023 | 9 | 15 | 2.9 | 251.0 | 27.2 | 32.2 | 1007.6 | 511.6 | 0.0 | 4.5 |
| 2023 | 21-05-2023 | 9 | 16 | 3.5 | 255.0 | 27.6 | 30.2 | 1005.2 | 412.2 | 0.0 | 5.8 |
| 2023 | 21-05-2023 | 9 | 17 | 4.6 | 250.7 | 28.0 | 24.3 | 1007.2 | 368.1 | 0.0 | 4.3 |
| 2023 | 21-05-2023 | 9 | 18 | 2.8 | 259.3 | 27.4 | 38.0 | 1008.0 | 565.8 | 0.0 | 2.4 |
| 2023 | 21-05-2023 | 9 | 19 | 2.7 | 160.5 | 26.2 | 48.9 | 1008.0 | 0.0 | 0.0 | 8.2 |
| 2023 | 21-05-2023 | 9 | 20 | 1.8 | 178.3 | 25.8 | 53.2 | 1007.8 | 0.0 | 0.0 | 6.8 |

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 21-05-2023 | 9 | 21 | 2.4 | 212.0 | 24.6 | 48.2 | 1011.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 21-05-2023 | 9 | 22 | 2.7 | 276.9 | 24.2 | 52.2 | 1008.2 | 0.0 | 0.0 | 7.4 |
| 2023 | 21-05-2023 | 9 | 23 | 2.9 | 272.5 | 23.2 | 36.7 | 1009.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 21-05-2023 | 9 | 24 | 2.2 | 268.8 | 26.9 | 48.7 | 1019.8 | 0.0 | 0.0 | 3.5 |
| 2023 | 22-05-2023 | 10 | 1 | 2.9 | 331.8 | 23.2 | 42.2 | 1018.9 | 0.0 | 0.0 | 8.2 |
| 2023 | 22-05-2023 | 10 | 2 | 3.5 | 20.3 | 23.6 | 47.8 | 1010.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 22-05-2023 | 10 | 3 | 4.6 | 58.4 | 223.8 | 45.9 | 1009.0 | 0.0 | 0.0 | 1.2 |
| 2023 | 22-05-2023 | 10 | 4 | 2.8 | 148.0 | 24.2 | 38.4 | 1009.2 | 0.0 | 0.0 | 0.0 |
| 2023 | 22-05-2023 | 10 | 5 | 2.7 | 123.7 | 24.6 | 40.5 | 1011.2 | 355.5 | 0.0 | 0.0 |
| 2023 | 22-05-2023 | 10 | 6 | 1.8 | 147.0 | 24.9 | 40.5 | 1007.2 | 386.0 | 0.0 | 2.2 |
| 2023 | 22-05-2023 | 10 | 7 | 2.4 | 171.0 | 25.2 | 36.1 | 1008.0 | 292.3 | 0.0 | 4.6 |
| 2023 | 22-05-2023 | 10 | 8 | 2.7 | 187.7 | 25.3 | 32.4 | 1008.0 | 380.2 | 0.0 | 4.2 |
| 2023 | 22-05-2023 | 10 | 9 | 2.9 | 185.6 | 25.8 | 29.8 | 1007.8 | 452.0 | 0.0 | 1.2 |
| 2023 | 22-05-2023 | 10 | 10 | 2.2 | 162.6 | 25.9 | 26.4 | 1011.0 | 560.2 | 0.0 | 2.0 |
| 2023 | 22-05-2023 | 10 | 11 | 2.6 | 160.5 | 26.2 | 23.3 | 1005.6 | 420.2 | 0.0 | 0.0 |
| 2023 | 22-05-2023 | 10 | 12 | 3.4 | 178.3 | 26.4 | 19.1 | 1012.4 | 354.0 | 0.0 | 1.0 |
| 2023 | 22-05-2023 | 10 | 13 | 4.6 | 212.0 | 26.8 | 16.9 | 1007.6 | 788.8 | 0.0 | 2.4 |
| 2023 | 22-05-2023 | 10 | 14 | 3.2 | 276.9 | 27.2 | 16.4 | 1008.0 | 716.2 | 0.0 | 4.5 |
| 2023 | 22-05-2023 | 10 | 15 | 3.0 | 272.5 | 26.4 | 16.6 | 1008.0 | 575.6 | 0.0 | 4.8 |
| 2023 | 22-05-2023 | 10 | 16 | 3.0 | 268.8 | 25.8 | 16.7 | 1007.8 | 379.2 | 0.0 | 7.6 |
| 2023 | 22-05-2023 | 10 | 17 | 2.2 | 331.8 | 25.4 | 17.6 | 1011.0 | 716.2 | 0.0 | 4.8 |
| 2023 | 22-05-2023 | 10 | 18 | 1.6 | 20.3 | 24.5 | 21.7 | 1005.6 | 575.6 | 0.0 | 7.6 |
| 2023 | 22-05-2023 | 10 | 19 | 0.7 | 58.4 | 24.3 | 22.8 | 1012.4 | 0.0 | 0.0 | 5.6 |
| 2023 | 22-05-2023 | 10 | 20 | 1.3 | 148.0 | 23.4 | 28.5 | 1009.0 | 0.0 | 0.0 | 4.8 |
| 2023 | 22-05-2023 | 10 | 21 | 1.4 | 123.7 | 23.2 | 37.4 | 1007.6 | 0.0 | 0.0 | 7.0 |
| 2023 | 22-05-2023 | 10 | 22 | 1.1 | 147.0 | 23.0 | 40.4 | 1005.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 22-05-2023 | 10 | 23 | 2.8 | 171.0 | 22.4 | 41.0 | 1007.2 | 0.0 | 0.0 | 8.0 |
| 2023 | 22-05-2023 | 10 | 24 | 2.6 | 187.7 | 21.2 | 44.1 | 1008.0 | 0.0 | 0.0 | 8.2 |
| 2023 | 23-05-2023 | 11 | 1 | 3.2 | 201.9 | 21.2 | 48.2 | 1007.8 | 0.0 | 0.0 | 7.2 |
| 2023 | 23-05-2023 | 11 | 2 | 2.6 | 106.0 | 22.2 | 46.2 | 1011.0 | 0.0 | 0.0 | 5.3 |
| 2023 | 23-05-2023 | 11 | 3 | 3.2 | 124.0 | 22.4 | 47.0 | 1008.0 | 0.0 | 0.0 | 1.0 |
| 2023 | 23-05-2023 | 11 | 4 | 3.7 | 70.6 | 22.6 | 45.4 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-05-2023 | 11 | 5 | 3.3 | 124.0 | 23.4 | 47.3 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-05-2023 | 11 | 6 | 3.3 | 102.0 | 23.6 | 51.2 | 1005.6 | 450.0 | 0.0 | 2.2 |
| 2023 | 23-05-2023 | 11 | 7 | 1.3 | 93.7 | 24.2 | 49.8 | 1012.4 | 354.0 | 0.0 | 6.7 |
| 2023 | 23-05-2023 | 11 | 8 | 1.5 | 102.0 | 24.6 | 52.2 | 1007.6 | 286.0 | 0.0 | 3.2 |
| 2023 | 23-05-2023 | 11 | 9 | 3.0 | 122.0 | 25.2 | 52.0 | 1008.0 | 423.0 | 0.0 | 3.7 |
| 2023 | 23-05-2023 | 11 | 10 | 3.1 | 106.0 | 25.6 | 53.3 | 1008.0 | 632.0 | 0.0 | 3.3 |
| 2023 | 23-05-2023 | 11 | 11 | 2.1 | 105.2 | 25.8 | 52.3 | 1007.8 | 523.0 | 0.0 | 3.3 |

N.D. INTERNATIONAL KOLKATA

For N.D. International

K.P. De - CEO

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# N.D. INTERNATIONAL

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An ISO 9001:2015 Company Certificate : 20DQHH82

035-CB-QMS

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 23-05-2023 | 11 | 12 | 1.6 | 142.2 | 26.2 | 54.4 | 1011.0 | 482.0 | 0.0 | 1.3 |
| 2023 | 23-05-2023 | 11 | 13 | 1.8 | 120.0 | 26.3 | 53.2 | 1005.6 | 502.0 | 0.0 | 1.5 |
| 2023 | 23-05-2023 | 11 | 14 | 2.2 | 124.0 | 26.9 | 54.6 | 1009.0 | 420.3 | 0.0 | 3.0 |
| 2023 | 23-05-2023 | 11 | 15 | 3.3 | 70.6 | 27.2 | 55.2 | 1007.6 | 423.1 | 0.0 | 3.1 |
| 2023 | 23-05-2023 | 11 | 16 | 1.3 | 124.0 | 27.6 | 55.9 | 1005.2 | 560.2 | 0.0 | 2.1 |
| 2023 | 23-05-2023 | 11 | 17 | 1.5 | 102.0 | 28.0 | 60.0 | 1007.2 | 633.2 | 0.0 | 7.4 |
| 2023 | 23-05-2023 | 11 | 18 | 3.0 | 192.2 | 27.4 | 55.8 | 1008.0 | 0.0 | 0.0 | 5.8 |
| 2023 | 23-05-2023 | 11 | 19 | 3.1 | 102.0 | 26.2 | 53.3 | 1008.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 23-05-2023 | 11 | 20 | 2.1 | 122.0 | 25.8 | 53.2 | 1007.8 | 0.0 | 0.0 | 2.2 |
| 2023 | 23-05-2023 | 11 | 21 | 1.6 | 106.0 | 24.6 | 49.3 | 1011.0 | 0.0 | 0.0 | 3.6 |
| 2023 | 23-05-2023 | 11 | 22 | 1.8 | 98.0 | 24.2 | 49.3 | 1005.6 | 0.0 | 0.0 | 0.0 |
| 2023 | 23-05-2023 | 11 | 23 | 2.2 | 120.0 | 23.2 | 46.3 | 1012.4 | 0.0 | 0.0 | 2.6 |
| 2023 | 23-05-2023 | 11 | 24 | 3.9 | 120.0 | 22.4 | 45.2 | 1009.0 | 0.0 | 0.0 | 2.3 |
| 2023 | 24-05-2023 | 12 | 1 | 2.8 | 201.9 | 19.0 | 55.2 | 1007.6 | 0.0 | 0.0 | 2.3 |
| 2023 | 24-05-2023 | 12 | 2 | 2.6 | 106.0 | 19.8 | 65.2 | 1005.2 | 0.0 | 0.0 | 2.1 |
| 2023 | 24-05-2023 | 12 | 3 | 3.2 | 124.0 | 20.2 | 48.8 | 1007.2 | 0.0 | 0.0 | 4.6 |
| 2023 | 24-05-2023 | 12 | 4 | 3.7 | 70.6 | 21.8 | 49.2 | 1008.0 | 0.0 | 0.0 | 4.4 |
| 2023 | 24-05-2023 | 12 | 5 | 3.3 | 124.0 | 23.2 | 54.3 | 1008.0 | 389.2 | 0.0 | 4.4 |
| 2023 | 24-05-2023 | 12 | 6 | 3.3 | 102.0 | 23.4 | 62.1 | 1007.8 | 420.0 | 0.0 | 4.6 |
| 2023 | 24-05-2023 | 12 | 7 | 1.3 | 93.7 | 23.8 | 49.8 | 1011.0 | 372.0 | 0.0 | 4.5 |
| 2023 | 24-05-2023 | 12 | 8 | 1.5 | 102.0 | 24.6 | 52.0 | 1005.6 | 652.0 | 2.2 | 3.9 |
| 2023 | 24-05-2023 | 12 | 9 | 3.0 | 122.0 | 26.8 | 57.2 | 1012.4 | 458.0 | 2.6 | 6.4 |
| 2023 | 24-05-2023 | 12 | 10 | 3.1 | 106.0 | 27.2 | 60.2 | 1007.6 | 652.0 | 3.2 | 5.0 |
| 2023 | 24-05-2023 | 12 | 11 | 2.1 | 105.2 | 27.6 | 62.2 | 1008.0 | 456.2 | 0.0 | 4.5 |
| 2023 | 24-05-2023 | 12 | 12 | 1.6 | 142.2 | 28.2 | 63.3 | 1008.0 | 652.2 | 0.0 | 2.2 |
| 2023 | 24-05-2023 | 12 | 13 | 1.8 | 120.0 | 28.4 | 64.1 | 1007.8 | 426.8 | 0.0 | 2.5 |
| 2023 | 24-05-2023 | 12 | 14 | 2.2 | 124.0 | 28.9 | 64.3 | 1011.0 | 383.3 | 0.0 | 2.2 |
| 2023 | 24-05-2023 | 12 | 15 | 3.9 | 70.6 | 28.4 | 63.8 | 1005.6 | 452.2 | 0.0 | 2.2 |
| 2023 | 24-05-2023 | 12 | 16 | 4.6 | 124.0 | 28.0 | 60.2 | 1012.4 | 420.0 | 0.0 | 2.5 |
| 2023 | 24-05-2023 | 12 | 17 | 4.4 | 102.0 | 27.6 | 62.2 | 1007.6 | 372.0 | 0.0 | 5.6 |
| 2023 | 24-05-2023 | 12 | 18 | 4.4 | 192.2 | 26.2 | 61.2 | 1008.0 | 652.0 | 0.0 | 4.0 |
| 2023 | 24-05-2023 | 12 | 19 | 4.6 | 102.0 | 25.6 | 61.2 | 1008.0 | 0.0 | 0.0 | 6.3 |
| 2023 | 24-05-2023 | 12 | 20 | 4.5 | 122.0 | 24.8 | 67.0 | 1007.8 | 0.0 | 0.0 | 8.3 |
| 2023 | 24-05-2023 | 12 | 21 | 3.9 | 106.0 | 24.6 | 57.2 | 1011.0 | 0.0 | 2.2 | 6.4 |
| 2023 | 24-05-2023 | 12 | 22 | 6.4 | 98.0 | 24.3 | 53.2 | 1005.6 | 0.0 | 1.8 | 7.5 |
| 2023 | 24-05-2023 | 12 | 23 | 5.0 | 120.0 | 23.8 | 48.2 | 1012.4 | 0.0 | 2.1 | 8.4 |
| 2023 | 24-05-2023 | 12 | 24 | 4.5 | 20.3 | 22.1 | 42.4 | 1007.2 | 0.0 | 0.0 | 7.7 |
| 2023 | 25-05-2023 | 13 | 1 | 4.6 | 58.4 | 23.2 | 41.1 | 1007.2 | 0.0 | 0.0 | 4.7 |
| 2023 | 25-05-2023 | 13 | 2 | 4.6 | 148.0 | 23.6 | 40.4 | 1008.0 | 0.0 | 0.0 | 0.0 |

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For N.D. International

K.P. De - CEO

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 25-05-2023 | 13 | 3 | 4.3 | 123.7 | 223.8 | 35.6 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 4 | 2.0 | 147.0 | 24.2 | 31.0 | 1007.8 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 5 | 1.3 | 205.4 | 24.6 | 30.0 | 1011.0 | 653.2 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 6 | 1.0 | 201.3 | 24.9 | 28.2 | 1008.2 | 482.6 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 7 | 1.0 | 198.2 | 25.2 | 24.0 | 1009.2 | 459.8 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 8 | 1.7 | 198.8 | 25.3 | 21.2 | 1019.8 | 542.0 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 9 | 2.6 | 232.6 | 25.8 | 19.8 | 1018.9 | 528.2 | 0.0 | 6.2 |
| 2023 | 25-05-2023 | 13 | 10 | 2.1 | 232.3 | 25.9 | 18.3 | 1010.0 | 653.2 | 0.0 | 7.4 |
| 2023 | 25-05-2023 | 13 | 11 | 1.4 | 228.5 | 26.2 | 15.8 | 1009.0 | 482.6 | 0.0 | 5.2 |
| 2023 | 25-05-2023 | 13 | 12 | 1.1 | 241.8 | 26.4 | 13.5 | 1009.2 | 459.8 | 0.0 | 4.8 |
| 2023 | 25-05-2023 | 13 | 13 | 1.2 | 265.1 | 26.8 | 12.4 | 1011.2 | 657.2 | 2.8 | 4.9 |
| 2023 | 25-05-2023 | 13 | 14 | 1.6 | 248.8 | 27.2 | 11.9 | 1007.2 | 653.2 | 0.0 | 8.4 |
| 2023 | 25-05-2023 | 13 | 15 | 2.0 | 223.7 | 26.4 | 12.0 | 1008.0 | 482.6 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 16 | 2.0 | 226.2 | 25.8 | 11.9 | 1008.0 | 459.8 | 2.6 | 2.2 |
| 2023 | 25-05-2023 | 13 | 17 | 2.2 | 227.7 | 25.4 | 12.0 | 1007.8 | 370.2 | 0.0 | 3.6 |
| 2023 | 25-05-2023 | 13 | 18 | 0.8 | 206.7 | 24.5 | 12.9 | 1011.0 | 640.2 | 0.0 | 7.4 |
| 2023 | 25-05-2023 | 13 | 19 | 1.2 | 190.2 | 24.3 | 13.7 | 1005.6 | 0.0 | 2.4 | 8.4 |
| 2023 | 25-05-2023 | 13 | 20 | 1.0 | 178.7 | 23.4 | 13.8 | 1012.4 | 0.0 | 0.0 | 5.6 |
| 2023 | 25-05-2023 | 13 | 21 | 4.7 | 136.2 | 23.2 | 24.7 | 1007.6 | 0.0 | 0.0 | 4.8 |
| 2023 | 25-05-2023 | 13 | 22 | 5.7 | 203.6 | 23.0 | 36.3 | 1008.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 25-05-2023 | 13 | 23 | 5.1 | 215.7 | 22.4 | 40.5 | 1008.0 | 0.0 | 0.0 | 2.8 |
| 2023 | 25-05-2023 | 13 | 24 | 4.4 | 229.8 | 21.2 | 34.4 | 1007.8 | 0.0 | 0.0 | 6.4 |
| 2023 | 26-05-2023 | 14 | 1 | 4.1 | 232.6 | 21.2 | 48.2 | 1005.6 | 0.0 | 0.0 | 4.8 |
| 2023 | 26-05-2023 | 14 | 2 | 4.9 | 231.7 | 22.2 | 46.2 | 1012.4 | 0.0 | 0.0 | 7.2 |
| 2023 | 26-05-2023 | 14 | 3 | 5.1 | 231.8 | 22.4 | 47.0 | 1007.2 | 0.0 | 0.0 | 4.9 |
| 2023 | 26-05-2023 | 14 | 4 | 5.3 | 224.8 | 22.6 | 45.4 | 1007.2 | 0.0 | 0.0 | 6.4 |
| 2023 | 26-05-2023 | 14 | 5 | 4.9 | 238.9 | 23.4 | 47.3 | 1008.0 | 568.4 | 0.0 | 7.8 |
| 2023 | 26-05-2023 | 14 | 6 | 3.6 | 243.4 | 23.6 | 51.2 | 1008.0 | 680.2 | 0.0 | 6.4 |
| 2023 | 26-05-2023 | 14 | 7 | 1.5 | 268.5 | 24.2 | 49.8 | 1007.8 | 645.8 | 0.0 | 4.5 |
| 2023 | 26-05-2023 | 14 | 8 | 1.9 | 282.2 | 24.6 | 52.2 | 1011.0 | 790.9 | 0.0 | 5.2 |
| 2023 | 26-05-2023 | 14 | 9 | 2.4 | 268.8 | 25.2 | 52.0 | 1008.2 | 625.2 | 0.0 | 7.2 |
| 2023 | 26-05-2023 | 14 | 10 | 2.3 | 247.8 | 25.6 | 53.3 | 1017.2 | 582.9 | 0.0 | 6.8 |
| 2023 | 26-05-2023 | 14 | 11 | 2.0 | 231.9 | 25.8 | 52.3 | 1015.2 | 344.2 | 1.2 | 2.4 |
| 2023 | 26-05-2023 | 14 | 12 | 1.4 | 227.7 | 26.2 | 54.4 | 1014.8 | 568.4 | 3.2 | 2.6 |
| 2023 | 26-05-2023 | 14 | 13 | 1.4 | 203.6 | 26.3 | 53.2 | 1005.6 | 680.2 | 0.0 | 3.4 |
| 2023 | 26-05-2023 | 14 | 14 | 1.1 | 220.9 | 26.9 | 54.6 | 1012.4 | 645.8 | 0.0 | 4.2 |
| 2023 | 26-05-2023 | 14 | 15 | 2.6 | 273.3 | 27.2 | 55.2 | 1007.2 | 790.9 | 0.0 | 2.6 |
| 2023 | 26-05-2023 | 14 | 16 | 0.9 | 275.9 | 27.6 | 55.9 | 1007.2 | 625.2 | 0.0 | 3.5 |
| 2023 | 26-05-2023 | 14 | 17 | 1.1 | 255.4 | 28.0 | 60.0 | 1008.0 | 582.9 | 0.0 | 4.8 |

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## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 26-05-2023 | 14 | 18 | 0.8 | 215.9 | 27.4 | 55.8 | 1008.0 | 568.4 | 0.0 | 8.2 |
| 2023 | 26-05-2023 | 14 | 19 | 4.5 | 150.3 | 26.2 | 53.3 | 1007.8 | 0.0 | 0.0 | 2.8 |
| 2023 | 26-05-2023 | 14 | 20 | 1.2 | 138.1 | 25.8 | 53.2 | 1011.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 26-05-2023 | 14 | 21 | 6.0 | 206.1 | 24.6 | 49.3 | 1008.2 | 0.0 | 0.0 | 4.5 |
| 2023 | 26-05-2023 | 14 | 22 | 5.3 | 229.1 | 24.2 | 49.3 | 1005.6 | 0.0 | 0.0 | 6.2 |
| 2023 | 26-05-2023 | 14 | 23 | 4.6 | 236.5 | 27.5 | 37.1 | 1012.4 | 0.0 | 0.0 | 3.8 |
| 2023 | 26-05-2023 | 14 | 24 | 3.4 | 237.0 | 26.4 | 40.5 | 1007.2 | 0.0 | 0.0 | 7.2 |
| 2023 | 27-05-2023 | 15 | 1 | 1.2 | 221.3 | 22.4 | 45.2 | 1009.0 | 0.0 | 0.0 | 4.2 |
| 2023 | 27-05-2023 | 15 | 2 | 2.2 | 232.2 | 19.0 | 55.2 | 1007.6 | 0.0 | 0.0 | 3.2 |
| 2023 | 27-05-2023 | 15 | 3 | 4.3 | 237.6 | 19.8 | 65.2 | 1005.2 | 0.0 | 0.0 | 4.8 |
| 2023 | 27-05-2023 | 15 | 4 | 3.4 | 240.9 | 20.2 | 48.8 | 1007.2 | 0.0 | 0.0 | 8.2 |
| 2023 | 27-05-2023 | 15 | 5 | 2.8 | 233.8 | 21.8 | 49.2 | 1008.0 | 484.3 | 0.0 | 2.8 |
| 2023 | 27-05-2023 | 15 | 6 | 1.6 | 272.2 | 23.2 | 54.3 | 1008.0 | 697.1 | 1.2 | 6.2 |
| 2023 | 27-05-2023 | 15 | 7 | 3.0 | 285.5 | 23.4 | 62.1 | 1007.8 | 851.2 | 0.0 | 4.5 |
| 2023 | 27-05-2023 | 15 | 8 | 3.6 | 297.5 | 23.8 | 49.8 | 1011.0 | 934.3 | 2.2 | 6.2 |
| 2023 | 27-05-2023 | 15 | 9 | 2.7 | 272.3 | 24.6 | 52.0 | 1005.6 | 484.3 | 0.0 | 8.2 |
| 2023 | 27-05-2023 | 15 | 10 | 2.2 | 256.9 | 26.8 | 57.2 | 1012.4 | 697.1 | 3.2 | 2.8 |
| 2023 | 27-05-2023 | 15 | 11 | 1.3 | 254.1 | 27.2 | 60.2 | 1007.6 | 851.2 | 0.0 | 6.2 |
| 2023 | 27-05-2023 | 15 | 12 | 1.4 | 263.0 | 27.6 | 62.2 | 1008.0 | 934.3 | 0.0 | 4.5 |
| 2023 | 27-05-2023 | 15 | 13 | 2.1 | 263.1 | 28.2 | 63.3 | 1008.0 | 939.2 | 0.0 | 6.2 |
| 2023 | 27-05-2023 | 15 | 14 | 2.3 | 239.4 | 28.4 | 64.1 | 1007.8 | 752.2 | 0.0 | 4.8 |
| 2023 | 27-05-2023 | 15 | 15 | 2.7 | 228.1 | 28.9 | 64.3 | 1011.0 | 520.0 | 0.0 | 8.2 |
| 2023 | 27-05-2023 | 15 | 16 | 3.0 | 245.3 | 28.4 | 63.8 | 1005.6 | 233.3 | 0.0 | 2.8 |
| 2023 | 27-05-2023 | 15 | 17 | 3.7 | 263.8 | 28.0 | 60.2 | 1012.4 | 484.3 | 0.0 | 6.2 |
| 2023 | 27-05-2023 | 15 | 18 | 3.1 | 290.4 | 27.6 | 62.2 | 1007.6 | 0.0 | 0.0 | 4.5 |
| 2023 | 27-05-2023 | 15 | 19 | 3.3 | 305.6 | 26.2 | 61.2 | 1008.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 27-05-2023 | 15 | 20 | 1.4 | 331.4 | 25.6 | 61.2 | 1008.0 | 0.0 | 0.0 | 4.5 |
| 2023 | 27-05-2023 | 15 | 21 | 4.4 | 161.6 | 24.8 | 67.0 | 1007.8 | 0.0 | 0.0 | 6.2 |
| 2023 | 27-05-2023 | 15 | 22 | 6.3 | 199.7 | 24.6 | 57.2 | 1011.0 | 0.0 | 0.0 | 8.2 |
| 2023 | 27-05-2023 | 15 | 23 | 5.1 | 216.1 | 24.3 | 53.2 | 1005.6 | 0.0 | 0.0 | 2.8 |
| 2023 | 27-05-2023 | 15 | 24 | 3.4 | 218.1 | 24.2 | 42.2 | 992.6 | 0.0 | 0.0 | 6.2 |
| 2023 | 28-05-2023 | 16 | 1 | 3.8 | 92.6 | 22.2 | 48.2 | 1007.8 | 0.0 | 0.0 | 4.5 |
| 2023 | 28-05-2023 | 16 | 2 | 4.5 | 110.2 | 23.0 | 65.2 | 1011.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 28-05-2023 | 16 | 3 | 7.2 | 65.8 | 23.6 | 48.8 | 1005.6 | 0.0 | 0.0 | 4.8 |
| 2023 | 28-05-2023 | 16 | 4 | 6.2 | 86.7 | 24.0 | 49.2 | 1012.4 | 0.0 | 0.0 | 8.2 |
| 2023 | 28-05-2023 | 16 | 5 | 4.5 | 106.0 | 21.0 | 54.3 | 1009.0 | 542.2 | 2.2 | 2.8 |
| 2023 | 28-05-2023 | 16 | 6 | 5.4 | 99.2 | 22.9 | 62.1 | 1007.6 | 358.2 | 1.8 | 6.2 |
| 2023 | 28-05-2023 | 16 | 7 | 2.5 | 48.5 | 23.4 | 49.8 | 1005.2 | 444.2 | 3.2 | 4.5 |
| 2023 | 28-05-2023 | 16 | 8 | 4.2 | 120.0 | 24.0 | 52.0 | 1007.2 | 560.2 | 1.6 | 6.2 |

For N.D. International

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An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 28-05-2023 | 16 | 9 | 3.5 | 124.0 | 26.0 | 57.2 | 1008.0 | 458.2 | 4.2 | 3.2 |
| 2023 | 28-05-2023 | 16 | 10 | 3.8 | 70.6 | 28.1 | 60.2 | 1008.0 | 354.0 | 0.0 | 4.3 |
| 2023 | 28-05-2023 | 16 | 11 | 4.6 | 124.0 | 29.8 | 62.2 | 1007.8 | 444.2 | 0.0 | 5.2 |
| 2023 | 28-05-2023 | 16 | 12 | 3.8 | 102.0 | 30.2 | 63.3 | 1011.0 | 560.2 | 0.0 | 4.2 |
| 2023 | 28-05-2023 | 16 | 13 | 2.6 | 122.0 | 30.6 | 64.1 | 1005.6 | 458.2 | 2.1 | 3.4 |
| 2023 | 28-05-2023 | 16 | 14 | 3.4 | 106.0 | 31.2 | 64.3 | 1012.4 | 354.0 | 1.8 | 4.6 |
| 2023 | 28-05-2023 | 16 | 15 | 3.4 | 99.2 | 32.2 | 63.8 | 1007.6 | 446.2 | 1.0 | 6.2 |
| 2023 | 28-05-2023 | 16 | 16 | 5.2 | 48.5 | 32.6 | 60.2 | 1008.0 | 252.4 | 0.0 | 4.2 |
| 2023 | 28-05-2023 | 16 | 17 | 2.7 | 120.0 | 32.6 | 62.2 | 1008.0 | 444.2 | 0.0 | 7.2 |
| 2023 | 28-05-2023 | 16 | 18 | 2.3 | 124.0 | 31.4 | 61.2 | 1007.8 | 560.2 | 0.0 | 4.8 |
| 2023 | 28-05-2023 | 16 | 19 | 2.6 | 70.6 | 30.1 | 61.2 | 1011.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 28-05-2023 | 16 | 20 | 3.4 | 124.0 | 28.9 | 67.0 | 1005.6 | 0.0 | 0.0 | 4.6 |
| 2023 | 28-05-2023 | 16 | 21 | 3.4 | 102.0 | 28.0 | 57.2 | 1012.4 | 0.0 | 0.0 | 4.4 |
| 2023 | 28-05-2023 | 16 | 22 | 5.2 | 93.7 | 26.7 | 53.2 | 1014.8 | 0.0 | 2.2 | 6.4 |
| 2023 | 28-05-2023 | 16 | 23 | 2.7 | 102.0 | 25.8 | 48.2 | 1016.2 | 0.0 | 2.1 | 5.2 |
| 2023 | 28-05-2023 | 16 | 24 | 2.3 | 122.0 | 24.9 | 42.4 | 1014.8 | 0.0 | 1.8 | 7.2 |
| 2023 | 29-05-2023 | 17 | 1 | 4.6 | 106.0 | 24.5 | 51.8 | 1016.8 | 0.0 | 1.0 | 8.4 |
| 2023 | 29-05-2023 | 17 | 2 | 3.8 | 99.2 | 24.1 | 52.2 | 1008.0 | 0.0 | 3.4 | 0.0 |
| 2023 | 29-05-2023 | 17 | 3 | 4.5 | 48.5 | 23.8 | 54.2 | 1008.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 29-05-2023 | 17 | 4 | 7.2 | 120.0 | 23.4 | 48.8 | 1007.8 | 0.0 | 2.4 | 4.2 |
| 2023 | 29-05-2023 | 17 | 5 | 6.2 | 124.0 | 23.0 | 49.2 | 1011.0 | 435.2 | 3.6 | 7.2 |
| 2023 | 29-05-2023 | 17 | 6 | 4.5 | 70.6 | 22.8 | 54.3 | 1005.6 | 458.2 | 4.8 | 4.8 |
| 2023 | 29-05-2023 | 17 | 7 | 5.4 | 124.0 | 24.3 | 62.1 | 1012.4 | 354.0 | 2.2 | 0.0 |
| 2023 | 29-05-2023 | 17 | 8 | 2.5 | 102.0 | 25.8 | 49.8 | 1007.6 | 286.0 | 1.8 | 4.6 |
| 2023 | 29-05-2023 | 17 | 9 | 4.2 | 93.7 | 28.0 | 52.0 | 1008.0 | 423.0 | 0.0 | 4.4 |
| 2023 | 29-05-2023 | 17 | 10 | 3.5 | 102.0 | 29.8 | 57.2 | 1008.0 | 632.0 | 0.0 | 6.4 |
| 2023 | 29-05-2023 | 17 | 11 | 3.8 | 122.0 | 31.7 | 60.2 | 1007.8 | 523.0 | 0.0 | 5.2 |
| 2023 | 29-05-2023 | 17 | 12 | 4.6 | 106.0 | 32.9 | 62.2 | 1011.0 | 482.0 | 0.0 | 7.2 |
| 2023 | 29-05-2023 | 17 | 13 | 3.8 | 99.2 | 34.0 | 63.3 | 1005.6 | 502.0 | 0.0 | 8.4 |
| 2023 | 29-05-2023 | 17 | 14 | 3.1 | 48.5 | 34.3 | 64.1 | 1009.0 | 572.2 | 0.0 | 0.0 |
| 2023 | 29-05-2023 | 17 | 15 | 1.6 | 120.0 | 34.4 | 64.3 | 1007.6 | 423.1 | 0.0 | 2.2 |
| 2023 | 29-05-2023 | 17 | 16 | 2.4 | 124.0 | 34.5 | 63.8 | 1005.2 | 560.2 | 0.0 | 4.2 |

For N.D. International

K.P. De - CEO

Authorised Signatory

N.D. INTERNATIONAL KOLKATA

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob.: 9830654565, 9830789456
E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# N.D. INTERNATIONAL

GOVERNMENT REGISTERED

An ISO 9001:2015 Company Certificate : 20DQHH82

## TEST REPORT

| Year | Month | Day | Hour | Wind Speed | Wind Direction | Ambient Temperature | Relative Humidity | Surface Pressure | Solar Radiation | Precipitation Rate | Cloud Cover |
|---|---|---|---|---|---|---|---|---|---|---|---|
| YYYY | MM | DD | HH | m/s | degree | oC | % | hPa | W/m2 | mm/hr | 10th |
| 2023 | 29-05-2023 | 17 | 17 | 4.4 | 70.6 | 33.7 | 60.2 | 1007.2 | 633.2 | 0.0 | 1.8 |
| 2023 | 29-05-2023 | 17 | 18 | 3.0 | 124.0 | 32.6 | 62.2 | 1008.0 | 654.3 | 0.0 | 2.2 |
| 2023 | 29-05-2023 | 17 | 19 | 3.5 | 102.0 | 31.2 | 61.2 | 1008.0 | 453.2 | 0.0 | 4.2 |
| 2023 | 29-05-2023 | 17 | 20 | 3.6 | 93.7 | 30.1 | 61.2 | 1007.8 | 0.0 | 0.0 | 3.6 |
| 2023 | 29-05-2023 | 17 | 21 | 3.6 | 209.4 | 29.3 | 67.0 | 1011.0 | 0.0 | 0.0 | 7.4 |
| 2023 | 29-05-2023 | 17 | 22 | 5.2 | 48.5 | 28.4 | 57.2 | 1005.6 | 0.0 | 0.0 | 6.4 |
| 2023 | 29-05-2023 | 17 | 23 | 2.7 | 120.0 | 26.5 | 53.2 | 1012.4 | 0.0 | 0.0 | 2.8 |
| 2023 | 29-05-2023 | 17 | 24 | 2.3 | 124.0 | 25.7 | 48.2 | 1009.0 | 0.0 | 0.0 | 2.2 |
| 2023 | 30-05-2023 | 18 | 1 | 2.6 | 70.6 | 25.3 | 55.2 | 1007.6 | 0.0 | 0.0 | 4.2 |
| 2023 | 30-05-2023 | 18 | 2 | 3.4 | 124.0 | 25.4 | 65.2 | 1005.2 | 0.0 | 0.0 | 1.8 |
| 2023 | 30-05-2023 | 18 | 3 | 3.4 | 102.0 | 25.3 | 48.8 | 1007.2 | 0.0 | 0.0 | 2.2 |
| 2023 | 30-05-2023 | 18 | 4 | 5.2 | 93.7 | 24.5 | 49.2 | 1008.0 | 0.0 | 0.0 | 4.2 |
| 2023 | 30-05-2023 | 18 | 5 | 2.3 | 102.0 | 24.2 | 54.3 | 1008.0 | 458.2 | 0.0 | 3.6 |
| 2023 | 30-05-2023 | 18 | 6 | 2.8 | 122.0 | 23.7 | 62.1 | 1007.8 | 385.2 | 0.0 | 7.4 |
| 2023 | 30-05-2023 | 18 | 7 | 4.6 | 106.0 | 26.2 | 49.8 | 1011.0 | 285.3 | 0.0 | 6.4 |
| 2023 | 30-05-2023 | 18 | 8 | 3.8 | 99.2 | 27.3 | 52.0 | 1005.6 | 488.7 | 0.0 | 2.8 |
| 2023 | 30-05-2023 | 18 | 9 | 4.5 | 48.5 | 29.3 | 57.2 | 1012.4 | 398.2 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 10 | 7.2 | 120.0 | 30.9 | 60.2 | 1007.6 | 511.6 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 11 | 6.2 | 124.0 | 32.3 | 62.2 | 1008.0 | 458.2 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 12 | 4.5 | 70.6 | 33.2 | 63.3 | 1008.0 | 385.2 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 13 | 5.4 | 124.0 | 33.7 | 64.1 | 1007.8 | 285.3 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 14 | 2.5 | 102.0 | 34.4 | 64.3 | 1011.0 | 488.7 | 0.0 | 0.0 |
| 2023 | 30-05-2023 | 18 | 15 | 4.2 | 93.7 | 34.6 | 63.8 | 1005.6 | 398.2 | 0.0 | 7.4 |
| 2023 | 30-05-2023 | 18 | 16 | 3.5 | 102.0 | 34.3 | 60.2 | 1012.4 | 511.6 | 0.0 | 6.2 |
| 2023 | 30-05-2023 | 18 | 17 | 3.8 | 122.0 | 33.7 | 62.2 | 1007.6 | 285.3 | 0.0 | 4.5 |
| 2023 | 30-05-2023 | 18 | 18 | 4.6 | 106.0 | 32.4 | 61.2 | 1008.0 | 488.7 | 0.0 | 5.8 |
| 2023 | 30-05-2023 | 18 | 19 | 3.8 | 99.2 | 31.1 | 61.2 | 1008.0 | 0.0 | 0.0 | 4.6 |
| 2023 | 30-05-2023 | 18 | 20 | 2.6 | 345.8 | 30.1 | 67.0 | 1007.8 | 0.0 | 0.0 | 3.2 |
| 2023 | 30-05-2023 | 18 | 21 | 2.2 | 343.4 | 29.3 | 57.2 | 1011.0 | 0.0 | 0.0 | 6.2 |
| 2023 | 30-05-2023 | 18 | 22 | 2.2 | 340.6 | 28.8 | 53.2 | 1005.6 | 0.0 | 0.0 | 4.5 |
| 2023 | 30-05-2023 | 18 | 23 | 2.0 | 318.7 | 27.8 | 48.2 | 1006.0 | 0.0 | 0.0 | 5.8 |
| 2023 | 30-05-2023 | 18 | 24 | 1.6 | 232.3 | 26.5 | 42.4 | 1005.0 | 0.0 | 0.0 | 4.6 |

For N.D. International

K.P. De - CEO

Authorised Signatory

N.D. INTERNATIONAL KOLKATA

107B, Block-F, New Alipore, Kolkata-700 053, Phone : 4021-6600-17 (18 Lines), 4021 6600 (Direct), Mob.: 9830654565, 9830789456
E-mail : ndinternational@gmail.com, Website : www.ndinternational.in

# ANNEXURE VII: Cluster Certificate

Government of West Bengal
Department of Industry,Commerce and Enterprises
Mines Branch
4, Abanindranath Tagore Sarani (Camac Street), Kolkata-700016

**No. 339(iv)-ICE/O/MIN/GEN-MIS/02/2023** **Date: - 18.06.2024**

## Cluster Certificate

This is to certify that, Sand Block No. **MIN_EBUR_41**, of M/s West Bengal Mineral Development and Trading Corporation Limited, comprising an area of **6.51 Hectare**, falls in Damodar River and administratively covered under Khandaghosh Block in Purba Bardhaman District is **"Clustering"** with **Sand Block - GAITANPUR SAND MINE - (KHANDAGHOSH/ GAITANPUR/ 1552(P), 1551(P) & ORS./E) (Project Proponent – Corum Trade and Services (Prop. – Pradip Arora), Area – 4.14 Hectare).**
The Geo-coordinates of **MIN_EBUR_41** Sand Block is furnished below:

| Toposheet No. 73 M/16 | | |
|---|---|---|
| Boundary Points | Co-ordinates | |
| | Latitude | Longitude |
| BP1 | N 23° 14' 01.346" | E 087° 48' 07.799" |
| BP2 | N 23° 14' 06.642" | E 087° 48' 10.232" |
| BP3 | N 23° 14' 01.642" | E 087° 48' 22.839" |
| BP4 | N 23° 13' 56.932" | E 087° 48' 20.083" |

The Geo-coordinates of **GAITANPUR SAND MINE - (KHANDAGHOSH/ GAITANPUR/1552(P), 1551(P) & ORS./E)** Sand Block (as per approved mining plan) is furnished below:

| Toposheet No. 73 M/16 | | |
|---|---|---|
| Boundary Points | Co-ordinates | |
| | Latitude | Longitude |
| A | N 23° 13' 55.68" | E 087° 47' 59.17" |
| B | N 23° 13' 55.44" | E 087° 47' 59.65" |
| C | N 23° 13' 49.82" | E 087° 47' 56.24" |
| D | N 23° 13' 50.31" | E 087° 47' 54.92" |
| E | N 23° 13' 55.21" | E 087° 47' 54.64" |
| F | N 23° 13' 56.31" | E 087° 47' 53.02" |
| G | N 23° 13' 59.83" | E 087° 47' 55.07" |
| H | N 23° 13' 59.55" | E 087° 47' 55.52" |
| I | N 23° 14' 01.83" | E 087° 47' 56.91" |
| J | N 23° 13' 58.49" | E 087° 48' 00.78" |

Deputy Secretary
to the Govt. of West Bengal
SAMIK PANIGRAHI, W.B.C.S. (Exe.)
Deputy Secretary
Dept. of Industry, Commerce & Enterprises
Govt. of West Bengal

# ANNEXTURE VIII: CER Undertaking

WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.
(A Govt. of West Bengal Undertaking)

CIN : U14219WB1973SGC028707
Regd. Office : WBIIDC Building, 3rd Floor
DJ-10, Sector-II, Salt Lake, Kolkata-700091
Phone : 033-2359-0073
Website : mdtcl.wb.gov.in

Memo No: MDTC/SAND/002(iv)/884(i) Date : 03.05.2024

## Undertaking

Undertaking is hereby provided to incur the expenses towards Corporate Environmental Responsibility (CER) as per MOEF & CC's notifications Nos. F-No. 22-65/2017-IA.III dt. 30th September, 2020 and 1st may, 2018 with respect to Sand Block No. **MIN_EBUR_41**, of M/s West Bengal Mineral Development and Trading Corporation Limited, comprising an area of **6.51 Hectare**, falls in Damodar River and administratively covered under Mouza – Gaitanpur of Khandaghosh Block in Purba Bardhaman District of West Bengal. The Geo-coordinates of this Sand Block is furnished below:

| Toposheet No. 73 M/16 | | |
|---|---|---|
| Boundary Points | Co-ordinates | |
| | Latitude | Longitude |
| BP1 | N 23° 14' 01.346" | E 087° 48' 07.799" |
| BP2 | N 23° 14' 06.642" | E 087° 48' 10.232" |
| BP3 | N 23° 14' 01.642" | E 087° 48' 22.839" |
| BP4 | N 23° 13' 56.932" | E 087° 48' 20.083" |

WBMDTCL is committed to make the expenses upto a maximum limit of 2 % of the total project cost. It is to be noted that, all the expenditure will be made in due consultation with the district authorities and also as per the recommendation of the district authorities. The main objective of these expenses shall be peripheral development and environment protection. The scope of work shall be followed but not limited to the activities listed below:

1. Infrastructure development.
2. Drinking water facility.
3. Electricity development including Solar projects.
4. Roads and drains.
5. Creation of water body for community use.
6. Solid Waste Management System and Scientific Studies.
7. Skill Development Programs.
8. Embankment Protection.

This is also to be stated that, all communication in this regard shall be made to the Chairman SEIAA, West Bengal and activities shall be monitored under the project. The statement of expenses shall be captured in the six monthly compliance reports to be submitted to SEIAA.

Authorised Signatory
West Bengal Mineral Development and Trading Corporation Limited
Samik Panigrahi, WBCS (Exe.)
General manager (Sand & Admin)
W.B. Mineral Dev. & Trading Corp. Ltd.

# ANNEXURE IX: Transport Route Map

## TRANSPORTATION MAP OF SAND LEASE AREA

MOUZA :- GAITANPUR, J.L. NO. :- 65, RIVER :- DAMODAR,
DISTRICT:- PURBA BARDHAMAN(W.B.)
AREA :- 6.51 Hectare , BLOCK :- KHANDAGHOSH
PROPONENT:- WEST BENGAL MINEARAL DEVELOPMENT & TRADING CORPORATION LIMITED.
SAND BLOCK CODE :- MIN_EBUR_41.

INDEX

| | |
|---|---|
| | LEASE BOUNDARY |
| | TRANSPORTATION ROUTE |

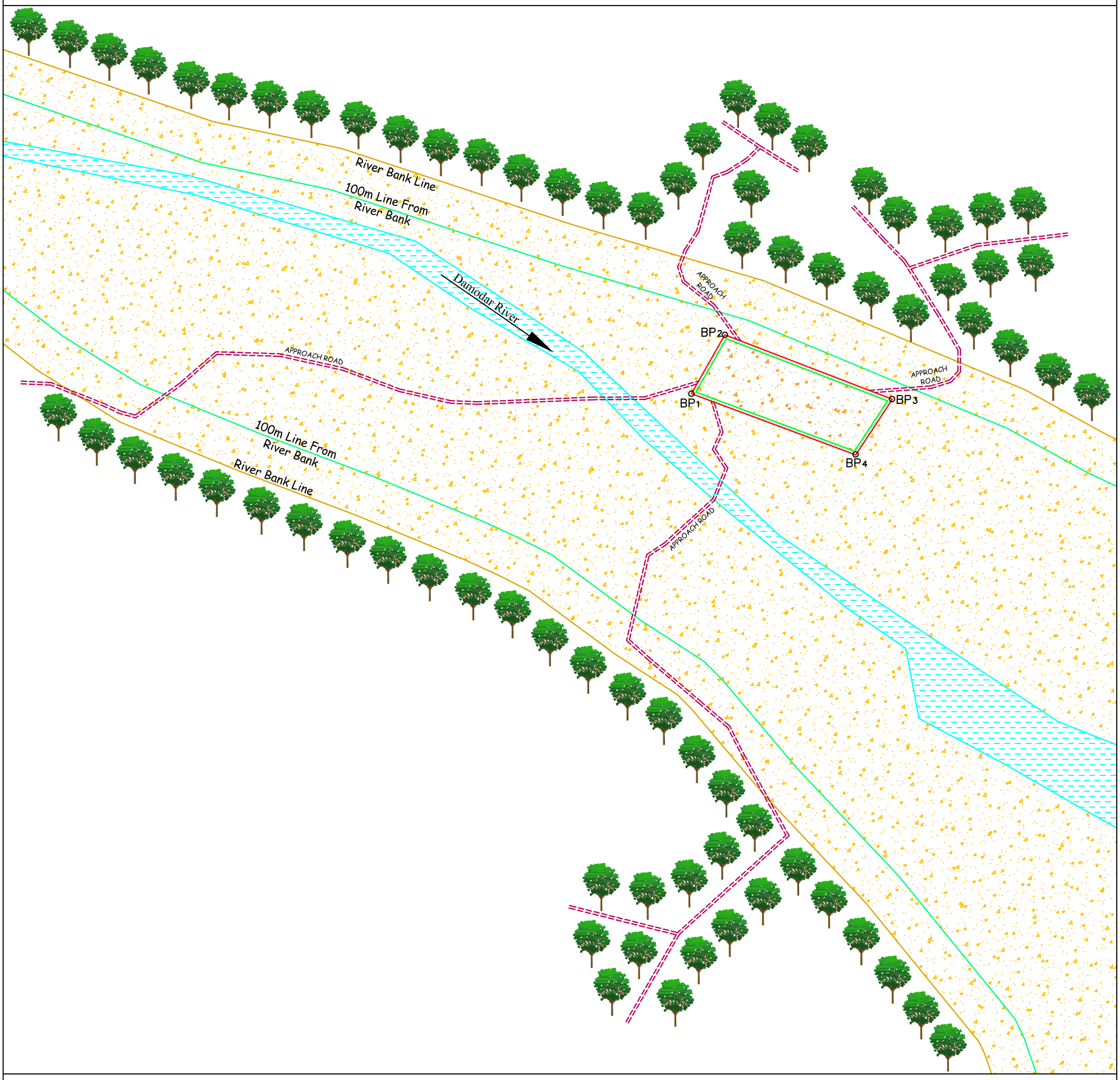


# GREEN BELT PLAN OF SAND LEASE AREA

MOUZA :- GAITANPUR, J.L. NO. :- 65, RIVER :- DAMODAR,
DISTRICT:- PURBA BARDHAMAN(W.B.)
AREA :- 6.51 Hectare , BLOCK :- KHANDAGHOSH
PROPONENT:- WEST BENGAL MINEARAL DEVELOPMENT & TRADING CORPORATION LIMITED.
SAND BLOCK CODE :- MIN_EBUR_41.

0m 100 200 400 600 800 1000m

M/N
W E
S




| INDEX | |
|---|---|
| | LEASE BOUNDARY |
| | RIVER BANK LINE/RIVER EDGE |
| | 100m LINE FROM RIVER BANK |
| | MINEABLE AREA |
| | SAFETY ZONE |
| | RIVER SAND |
| | RIVER FLOW DIRECTION |
| | APPROACH ROAD |
| | PROPOSED PLANTATION IN THE 1st YEAR |

| Toposheet No. 73 M/16 | | |
|---|---|---|
| Boundary Points | Co-ordinates | |
| | Latitude | Longitude |
| BP1 | N 23° 14' 01.346" | E 087° 48' 07.799" |
| BP2 | N 23° 14' 06.642" | E 087° 48' 10.232" |
| BP3 | N 23° 14' 01.642" | E 087° 48' 22.839" |
| BP4 | N 23° 13' 56.932" | E 087° 48' 20.083" |

**TOTAL PLANTATION ZONE AREA IS = 2.15 Hect.**
**33% OF THE LEASE AREA**
**NUMBER OF PLANTATION - 5375 NO's**

PREPARED BY


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230316°
Long 87.814396°
21/04/24 10:17 AM GMT +05:30


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230373°
Long 87.814346°
21/04/24 10:17 AM GMT +05:30


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230386°
Long 87.814332°
21/04/24 10:17 AM GMT +05:30


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230386°
Long 87.814325°
21/04/24 10:17 AM GMT +05:30


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230387°
Long 87.814349°
21/04/24 10:17 AM GMT +05:30


Khargeswar P, West Bengal, India
6RM7+4Q, Khargeswar P, West Bengal 713103, India
Lat 23.230406°
Long 87.814299°
21/04/24 10:16 AM GMT +05:30

## ANNEXURE XII: Baseline flow monitoring photographs.




| POINT | LATITUDE | LONGITUDE |
|---|---|---|
| BH-1 | 23°14'1.88"N | 87°48'9.44"E |
| BH-2 | 23°14'1.31"N | 87°48'15.29"E |
| BH-3 | 23°13'57.98"N | 87°48'19.25"E |
| BH-4 | 23°14'1.03"N | 87°48'20.91"E |
| BH-5 | 23°14'4.75"N | 87°48'11.07"E |

# BASE FLOW MONITORING PHOTOGRAPHS OF - MIN_EBUR_41












# ANNEXURE XIII: NABET Accreditation Certificate

भारतीय गुणवत्ता परिषद्
QUALITY COUNCIL® OF INDIA
QCI Creating an Ecosystem for Quality

NABET

## National Accreditation Board for Education and Training

## Certificate of Accreditation

**Indian Mine Planners and Consultants, Kolkata**

**GE-61, Rajdanga Main Road, Behind Gateway Hotel Kolkata, West Bengal- 700107**

*The organization is accredited as **Category-A** under the QCI-NABET **Scheme for Accreditation of EIA Consultant Organization, Version 3**: for preparing EIA/EMP reports in the following Sectors-*

| S. No | Sector Description | Sector (as per) | | Cat. |
|---|---|---|---|---|
| | | NABET | MoEFCC | |
| 1. | Mining of minerals including opencast/underground mining | 1 | 1 (a) (i) | A |

***Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated July 21, 2023 and supplementary assessment minutes dated December 08, 2023 & March 14, 2024 posted on QCI-NABET website.***

*The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/24/3194 dated April 17, 2024. The accreditation needs to be renewed before the expiry date by Indian Mine Planners and Consultants, Kolkata following due process of assessment.*

**Issue Date**
**April 17, 2024**

**Valid up to**
**May 09, 2026**

**Mr. Ajay Kumar Jha**
**Sr. Director, NABET**

**Certificate No.**
**NABET/EIA/23-26/RA 0322**

**Prof (Dr) Varinder S Kanwar**
**(CEO NABET)**

*For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.*

# ANNEXURE XIV: NABL Certificate

National Accreditation Board for Testing and Calibration Laboratories

## CERTIFICATE OF ACCREDITATION

## N. D. INTERNATIONAL

has been assessed and accredited in accordance with the standard

## ISO/IEC 17025:2017

## "General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

17, JNAN GOSWAMI SARANI, 107B, BLOCK-F, NEW ALIPORE, KOLKATA, WEST BENGAL, INDIA

in the field of

## TESTING

**Certificate Number:** TC-5910

**Issue Date:** 07/06/2022 **Valid Until:** 06/06/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

**Name of Legal Identity :** N. D. INTERNATIONAL

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer