



ADITYA ENVIRONMENTAL SERVICES PVT. LTD.

Testing Laboratory is certified by ISO 9001:2015 & ISO 45001:2018

Recognized by MoEFCC as "Environmental Laboratory" valid up to 24.04.2025

Laboratory: P-1, MIDC Mohopada, P.O. Rasayani, Dist. Raigad Pin 410222

Tel: 9112844844, CIN: U74999MH2001PTC132091 UDYAM-MH-19-0029787

Monitoring Period: September 2024

Purpose:

The objective of the monitoring is to understand the Ambient Air quality, Ambient Noise quality, Ground water quality at Navi Mumbai International Airport site and nearby villages.

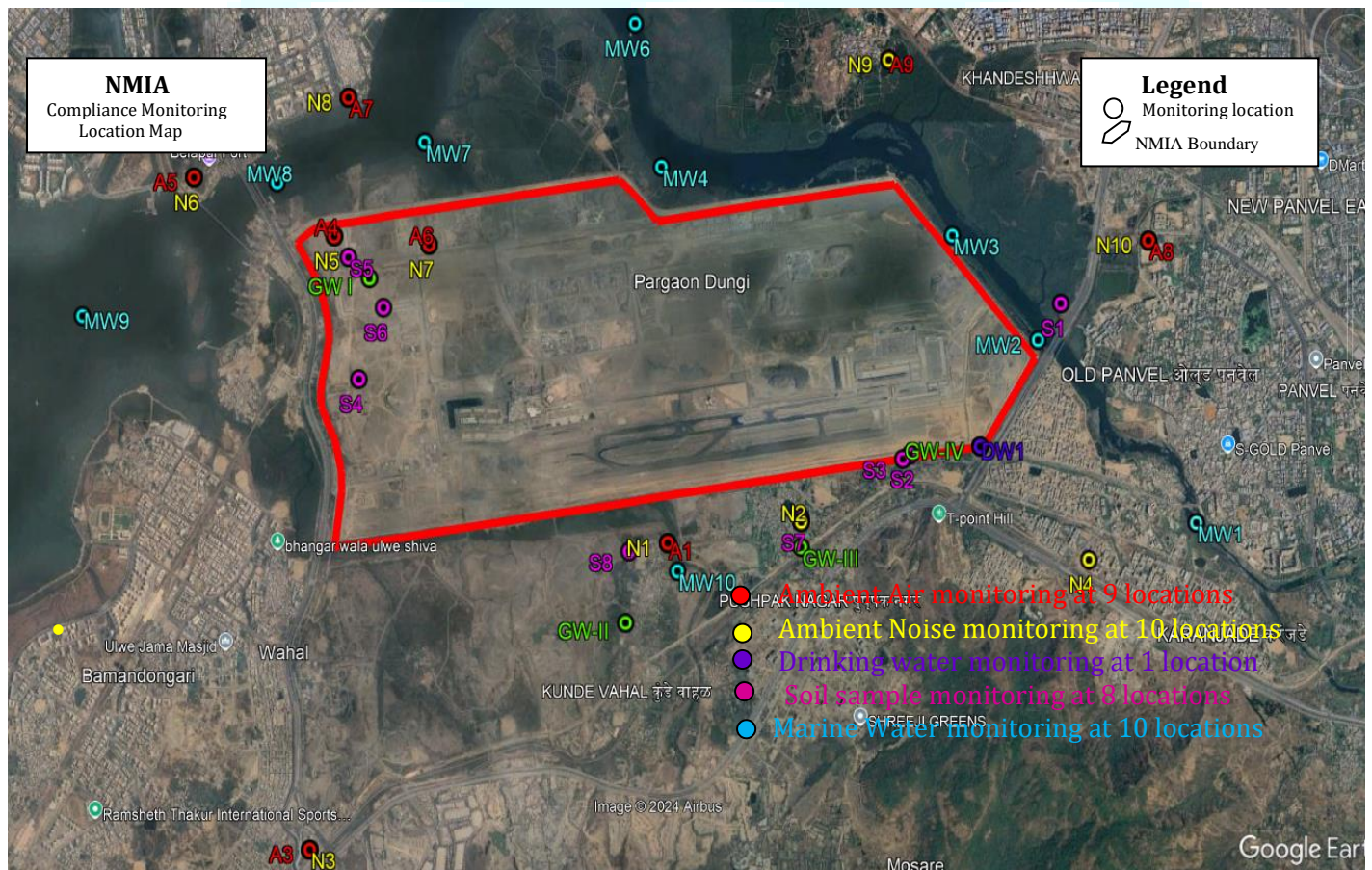
Location of site: Navi Mumbai International Airport, At Ulwe, Panvel Taluka, Raigad District, Maharashtra.

Scope:

The scope of work includes:

Assessment of the present status of following components of environment:

- Ambient Air monitoring at 9 locations
- Ambient Noise monitoring at 10 locations
- Ground water monitoring at 4 locations.
- Drinking water monitoring at 1 location
- Soil sample monitoring at 8 locations
- Marine Water monitoring at 10 locations





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Analysis Data:

Ambient Air monitoring

| | | |
|---|---|---|
| Monitoring Dates & Duration | : | 9 th September 24 to 12 th September 24; 24 hourly monitoring. |
| Analysis Dates | : | 11 th September 24 to 21 th September 24 |
| Locations covered (AAQ 9 Locations) | : | Owale, Pargaon, Ulwe node, NMIA Project site, Kille Gavthan, L&T Project Office, Diwale Koliwada, Jui & Panvel. |
| Parameters covered for AAQ | : | 12 Parameters as per National Ambient Air Quality Standards (NAAQS) 2009. |

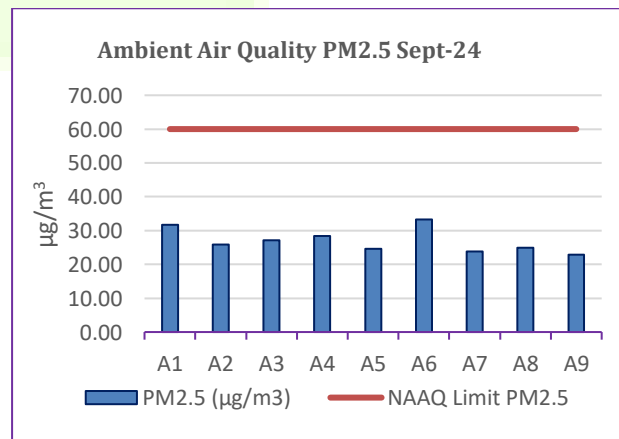
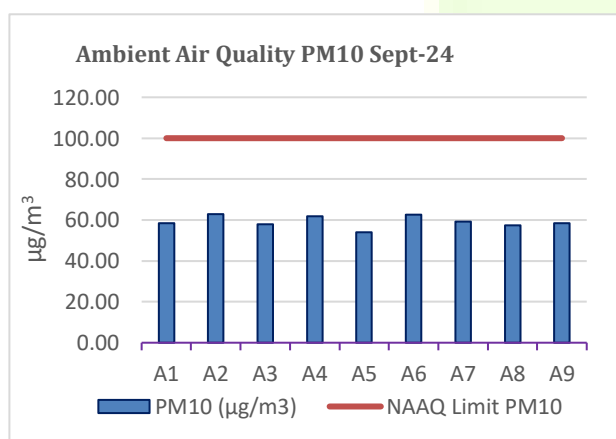
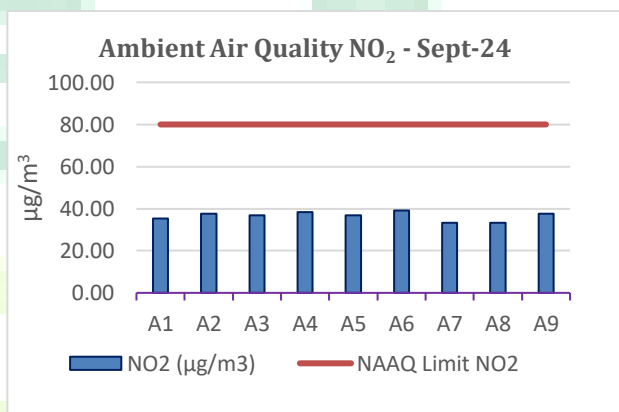
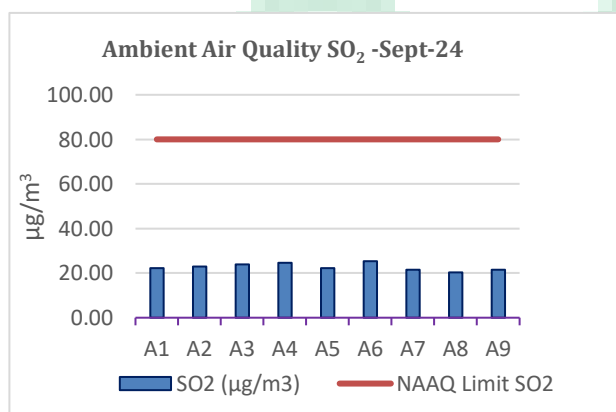
Analysis values except SO₂, NO₂, PM₁₀, PM_{2.5}, Ozone, NH₃ and CO at all 9 locations are found below detection levels (BDL).

| Sr. No. | Parameter | Result | Limits as per NAAQS 2009 | Unit |
|---------|--|--------|--------------------------|-------------------|
| 1. | Benzo(a) pyrene | < 0.5 | 01 *** | ng/m ³ |
| 2. | Lead as Pb | < 0.5 | 1.0 * | µg/m ³ |
| 3. | Nickel as Ni | < 5.0 | 20 *** | ng/m ³ |
| 4. | Arsenic as As | < 5.0 | 06 *** | ng/m ³ |
| 5. | Benzene [C ₆ H ₆] | < 0.2 | 05 *** | µg/m ³ |

[*] 24 hourly monitoring values; [***] annually monitoring values.

Conformity Statement: The monitoring undertaken indicates that Ambient Air Quality Values for monitored parameters are within the levels stipulated under National Ambient Air Quality Standards (NAAQS) 2009 for all 9 locations.

Analysis Data for PM₁₀, PM_{2.5}, SO₂, NO₂, Ozone, NH₃ and CO





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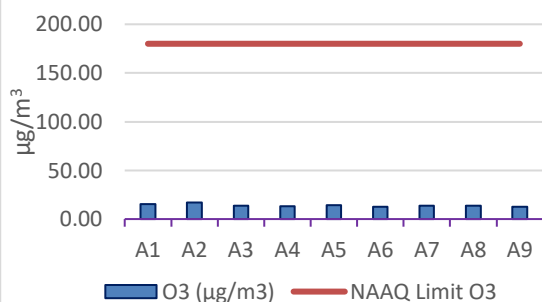
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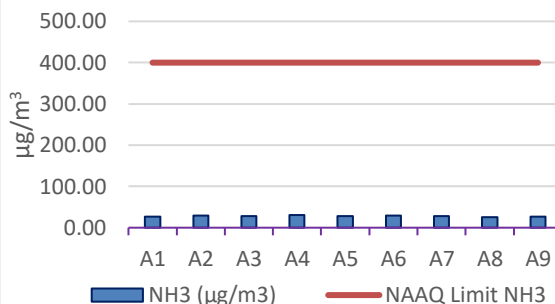
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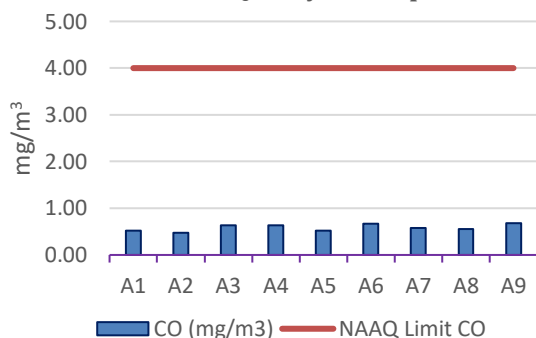
Ambient Air Quality O₃ - Sept-24



Ambient Air NH₃ - Sept-24



Ambient Air Quality CO - Sept-24



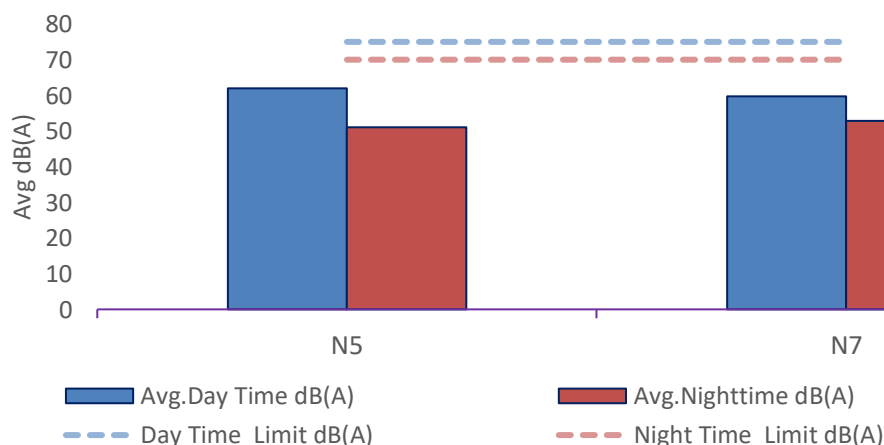
| Location Code | Name of the Location |
|---------------|----------------------|
| A1 | Owale |
| A2 | Pargaon |
| A3 | Ulwe Node |
| A4 | NMIA Project Site |
| A5 | Kille Gavthan |
| A6 | L&T Site Office |
| A7 | Diwale Koliwada |
| A8 | Panvel |
| A9 | Jui |

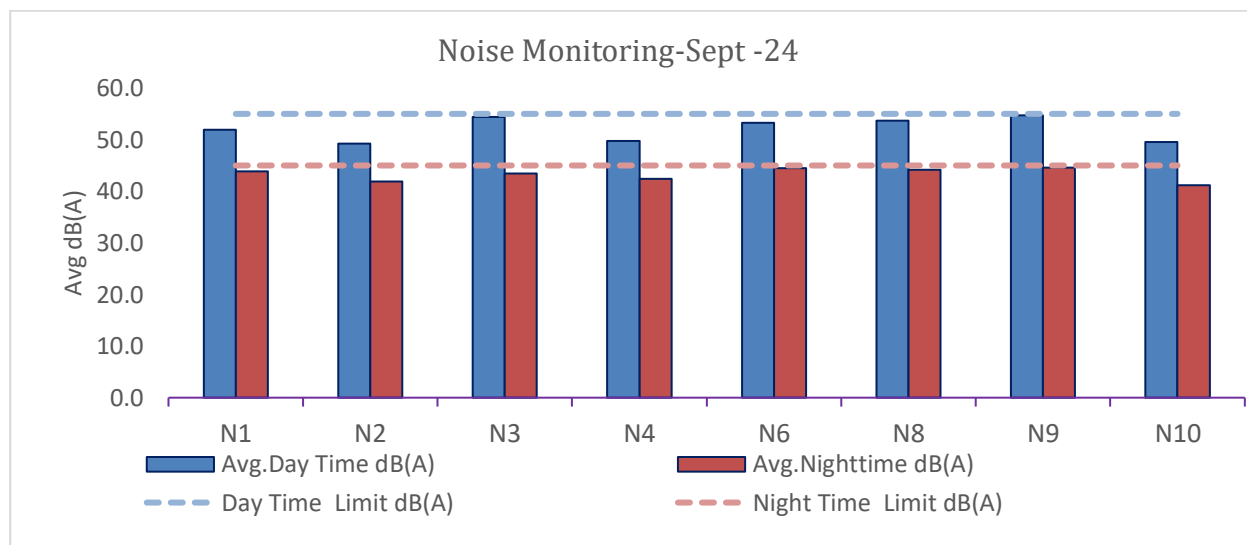
• Ambient Noise

| | |
|----------------------------------|---|
| Monitoring Dates & Duration | : 9th September 24 to 11 th September 24; 24 hourly monitoring |
| Locations covered (10 Locations) | : Owale, Pargaon, Ulwe node, NMIA Project site, Kille Gavthan, L&T site Office, Diwale Koli Wada, Jui, Panvel & Karanjade |

Industrial Area: Noise Location

Noise Monitoring-Sep. -24



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| Location Code | Name of the Location | Noise Levels dB (A) | | | |
|------------------|----------------------|---------------------|---------|---------|-----------|
| | | L-day | L-night | Leq Day | Leq Night |
| Industrial Zone | | | | | |
| N5 | NMIA Project Site | 62.0 | 51.0 | 62.28 | 51.92 |
| N7 | L&T Site Office | 59.7 | 52.8 | 62.56 | 52.64 |
| Residential Zone | | | | | |
| N1 | Owale | 51.9 | 43.9 | 52.04 | 43.76 |
| N2 | Pargaon | 49.2 | 41.9 | 53.16 | 42.40 |
| N3 | Ulwe Node | 54.4 | 43.4 | 55.30 | 43.70 |
| N4 | Karanjade | 49.8 | 42.4 | 54.88 | 42.96 |
| N6 | Kille Gavthan | 53.3 | 44.5 | 53.10 | 44.48 |
| N8 | Diwale Koliwada | 53.7 | 44.2 | 53.91 | 44.35 |
| N9 | Jui | 54.7 | 44.6 | 55.17 | 45.10 |
| N10 | Panvel | 49.5 | 41.2 | 53.83 | 41.86 |

| Sr. No. | Sources | Noise Levels dB (A) | |
|---------|----------------------------|---------------------|-----------|
| | | Leq Day | Leq Night |
| | limits as per EPA Standard | | |
| 1. | Rural/Residential Zone (R) | 55.0 | 45.0 |
| 2. | Commercial Zone (C) | 65.0 | 55.0 |
| 3. | Industrial Zone (I) | 75.0 | 70.0 |
| 4. | Silence Zone (S) | 50.0 | 40.0 |

Conformity Statement: Noise Levels at all the locations were within the stipulated limits as per EPA Standard for Industrial & Residential Areas.

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- Ground & Drinking Water**

| | | |
|--|---|---|
| Monitoring Dates | : | 9 th September & 10 th September 24 Grab sampling. |
| Analysis Dates | : | 9 th September 24 to 18 th September 24 |
| Locations covered (5 Locations) | : | Dug well water at Kombadbhuje, Owale, Dapoli, Chinchpada & Drinking water at NMIA Project Office. |
| Parameters covered | : | 59 Parameters as per IS 10500:2012 RA:2018 Drinking water Specification (Except Radioactive materials). |

| Sampling Code | Name of the Location |
|----------------------|--|
| GW1 | Dug Well-Kombadbhuje (Depth of water 4.0 Feet) |
| GW2 | Dug Well-Owale (Depth of water 2.0 Feet) |
| GW3 | Dug Well- Dapoli (Depth of water 4.0 Feet) |
| GW4 | Dug Well-Chinchpada (Depth of water 1.0 Feet) |
| DW1 | Tap Water – NMIA Project New Office |

Conformity Statement: All Ground water samples are **Pass** as per IS 10500:RA 2018 w. r. t. Chemical analysis & **Fail** for Microbiological analysis. Drinking water sample is **Pass** as per IS 10500:RA 2018 w. r. t. chemical & Microbiological analysis.

- Soil Samples**

| | | |
|--|---|--|
| Monitoring Dates | : | 11 th September 24 |
| Analysis Dates | : | 12 th September 24 to 21 st September 24 |
| Locations covered (8 Locations) | : | Soil samples at Ulwe, Koli, Kopar, Kombadbhuje, Pargaon, NMIA project office, Chinchpada, Owale. |
| Parameters covered | : | 27 Parameters: pH, Texture class, organic carbon, Electrical Conductivity, Available nitrogen, Available phosphorus, Available K, S04, Chloride, Calcium, Magnesium, Fe, Mn, Cu, Hg, Cd, As, Pb, Zn, Al, Ni, Co, Cr, Na, Class |

| Sampling Code | Name of the Location |
|----------------------|-----------------------------|
| S1 | Chinchpada |
| S2 | Koli |
| S3 | Kopar |
| S4 | Ulwe |
| S5 | NMIA project Office |
| S6 | Kombadbhuje |
| S7 | Pargaon |
| S8 | Owale |

Conclusions: The classification of soil in the study area is mostly clay. The pH in the soil is neutral in nature. As per the results we can infer that the soils have medium phosphorus content and very less quantity of potassium in the collected samples.



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• Marine water

| | | |
|--------------------------------------|---|---|
| Monitoring Dates | : | 13 th September 24 & 14 th September 24 |
| Analysis Dates | : | 13 th September 24 to 21 st September 24 |
| Locations covered (10 Locations) | : | Marine water at Extreme End of Gadhi River, Near Chinchpada Village, Near Jui Village, at Junction Ulwe & Gadhi River, Near Vaghivali River, Near CBD Belapur, Near Vaghivali Creek Junction, Near Rathi Bandar in Panvel creek, Mouth of Panvel Creek, Ulwe River near Ulwe Village. |
| Parameters covered (chemical) | : | 26 Parameters: pH, Temperature, Turbidity, EC, Salinity, DO, BOD, COD, Magnesium, hardness, Alkalinity, Chloride, Sulphate, Fluoride, Sodium, Potassium, total nitrogen, Total phosphorus, Phenol. Fe, Zn, Mg, Mn, Cd, Cr, Hg, Pb |
| Parameters covered (Biological) | : | Phytoplankton, Zooplankton, Chlorophyll, Diversity Indices of Phytoplankton, Diversity Indices of Zooplankton, phaeophytin |
| Parameters covered (Microbiological) | : | Coliform by MPN |

| Sampling Code | Name of the Location |
|---------------|--|
| MW1 | Extreme end of Gadhi River |
| MW2 | Near Chinchpada village (2 km from W1) in Gadhi River |
| MW3 | Near Jui Village (1.8 km from W2) in Gadhi River |
| MW4 | At Junction of Ulwe and Gadhi Rivers (1.8 km from W3) in Gadhi River |
| MW5 | Near Vaghivali village (2 km from W4) in Gadhi River |
| MW6 | Near CBD Belapur (1.2 km from W5) in Panvel Creek |
| MW7 | Vaghivali Creek Junction (800m from W6) in Gadhi River |
| MW8 | Near Rathi Bunder in Panvel Creek |
| MW9 | Mouth of Panvel Creek |
| MW10 | Ulwe River Near Ulwe Village |

Conclusions: The pH in the water samples were observed to be neutral. The marine environment is moderate around NMIA and supports life in it which is evident from studies of Phytoplankton, zooplankton and Benthic organism. Phosphates, & Phenols are within the expected range.

Reshmi

Reshma S. Patil.
(Authorized Signatory)



Himani

Himani P. Joshi.
(Report Reviewed By)

-End of Test Report-