

**REPORT  
ON THE WATER QUALITY OF RIVERS/STREAMS & AMBIENT NOISE LEVEL  
QUALITY AT THE IMMERSION SITES OF THE IDOLS**

**OCTOBER, 2020**



**Meghalaya State Pollution Control Board  
'Arden', Lumpynggad,  
Shillong - 793014, Meghalaya**

## 1. MONITORING OF RIVERS USED AS IMMERSION SITES

The Meghalaya State Pollution Control Board, Shillong, in pursuance of the order of the Central Pollution Control Board, Delhi, conducted the monitoring of the rivers located in Shillong, Tura and Jowai where Immersion sites are located. The monitoring was conducted with the aim of assessing the environmental impact due to such immersion.

### SAMPLING METHODOLOGY

The sampling procedure used during collection of samples from the selected sites is the 'Grab Sample' method.

#### **The monitoring was conducted in three phases:**

- Phase 1 -Pre-immersion monitoring, conducted on the 23<sup>rd</sup> of October, 2020.
- Phase 2-Immersion Day monitoring, conducted on the 26<sup>th</sup> of October, 2020.
- Phase 3-Post-immersion monitoring, conducted on the 29<sup>th</sup> of October, 2020.

#### **The monitoring was conducted at three Immersion sites:**

- Shillong, East Khasi Hills District:** The Immersion site is located along the river Umkhrah at Polo, Shillong. The three (3) sampling points selected along the stretches of the river for collection of water samples are:
  - (i) 1<sup>st</sup> sampling point - approximately 100 meters upstream of the immersion site
  - (ii) 2<sup>nd</sup> sampling point - Immersion site.
  - (iii) 3<sup>rd</sup> sampling point - approximately 100 meters downstream of the site.
- Jowai, West Jaintia Hills District:** The Immersion Ghat is located along the river Myntdu at Lynter Archaka, Syntu Ksiar. The three (3) sampling points selected along the stretches of the river for collection of water samples are:
  - (i) 1<sup>st</sup> sampling point - approximately 100 meters upstream of the immersion site
  - (ii) 2<sup>nd</sup> sampling point - Immersion site
  - (iii) 3<sup>rd</sup> sampling point - approximately 100 meters downstream of the site.
- Tura, West Garo Hills District:** The Immersion Ghat is located along the river Babupara-Rongkhon at Babupara. The three (3) sampling points selected along the stretches of the river for collection of water samples are:
  - (i) 1<sup>st</sup> sampling point - approximately 100 meters upstream of the immersion site

(ii) 2<sup>nd</sup> sampling point - Immersion site

(iii) 3<sup>rd</sup> sampling point - approximately 100 meters downstream of the site

#### **PARAMETERS ANALYZED**

- The quality of water at the selected sampling points have been examined in terms of Temperature, pH, Conductivity, Dissolved Oxygen, Turbidity, Total Dissolved Solids, Bacteriological Oxygen Demand, Chemical Oxygen Demand, Hardness, Calcium, Magnesium, Total Suspended Solids, Chromium, Copper, Lead and Zinc among the Physico-Chemical parameters.
- The analysis was carried out in accordance with the standard procedures APHA-AWWA-WEF (American Public Health Association, American Water Works Association, Water Environment Federation) – 23<sup>rd</sup> Edn.
- The analysis result of the rivers Umkhrah, Myntdu and Babupara-Rongkhon is presented in Table 1, 2 & 3 respectively.

#### **FINDINGS**

From the analysis data (**Table 1, Table 2 & Table 3**), it was observed that there was no significant changes in the concentration of parameters analysed during the three phases of monitoring at the monitored water bodies so as to characterize any alteration in their characteristics as a result of immersion of idols into the water systems.

#### **AMBIENT NOISE LEVEL MONITORING**

Ambient noise level monitoring was conducted at the respective immersion ghats/sites at Shillong, Tura and Jowai in order to assess the level of noise during during the festival. The monitoring was conducted on the 26<sup>th</sup> October 2020, i.e., the day of immersion.

The monitoring team was equipped with Envirotech SLM 109 Sound Level Meters and the noise level was measured in dB (A) i.e., the level of sound in decibels on scale – A, as per the human ear sensitivity requirements. The result was expressed in Leq, denoting the A weighted energy mean of the noise level averaged over the measurement period and compared with the national ambient noise level standard(s).

The noise level was recorded for a total of 1-hour duration wherein Leq readings were monitored for every half-hour interval.

The levels recorded during the occasion at the respective immersion sites in Shillong, Tura and Jowai is given in tables below:

**TABLE 1-A**

<b>Location A</b>	<b>River Umkhrah Immersion Site, Polo, Shillong</b>	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
11:30 Hrs. to 12:00 Hrs.	68.4	55.0
12:00 Hrs. to 12:30 Hrs.	59.8	

The above table (Table 1-A) reveals that the ambient noise level at the immersion ghat along the river Umkhrah at Polo, Shillong, monitored on the 26<sup>th</sup> of October, 2020, is on the higher side.

The levels recorded at every half-hourly interval from the time duration of 11:30 Hrs. (11:30 am) to 12:00 Hrs. (12:00 noon) and 12:00 Hrs. (12:00 noon) to 12:30 Hrs. (12:30 pm) shows that the level exceeds the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area).

The noise, as observed on the above day and duration of monitoring, is due to various activities at the immersion ghat/site viz. shouts of celebration, beating of drums, singing and playing of musical instruments etc. during the immersion process.

However, the monitored data reveals that the level is markedly lower than that during Kali Puja 2019.

**TABLE 1-B**

<b>Location B</b>	<b>River Babupara-Rongkhon Immersion Site, Babupara, Tura</b>	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
12:20 Hrs. to 12:50 Hrs.	68.7	55.0
12:50 Hrs. to 13:20 Hrs.	66.9	

The above table (Table 1-B) reveals that the ambient noise level at the immersion ghat along the river Babupara-Rongkhon at Babupara, Tura, monitored on the 26<sup>th</sup> of October, 2020, is high.

The levels recorded at every half-hourly interval from the time duration of 12:20 Hrs. (12:20 pm) to 12:50 Hrs. (12:50 pm) and 12:50 Hrs. (12:50 pm) to 13:20 Hrs. (1:20 pm) shows


that the level obtained exceeds the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area).

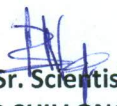
The noise, as observed on the above day and duration of monitoring, is due to festive activities during the immersion process. However, here again, the monitored data reveals that the level is much lower than that during Kali Puja 2019.

**TABLE 1-C**

<b>Location: C</b>	<b>River Myntdu Immersion Site, Syntu Ksiar, Jowai</b>	
Time duration	Leq dB(A)	Ambient Noise Level Standard (Day time) [Residential Area] Leq dB(A)
14:00 Hrs. to 14:30 Hrs.	51.1	55.0
14:30 Hrs. to 15:00 Hrs.	43.3	

The table above (Table 1-C) displaying the ambient noise level at the immersion ghat along the river Myntdu at Lynter Archaka, Syntu Ksiar, Jowai, monitored on the 26<sup>th</sup> of October, 2020, reveals that the level is well within the daytime Ambient Noise Standard of 55.0 dB(A) Leq (for a Residential area) during both half-hourly monitored time intervals from 14:00 Hrs. (2:00 pm) to 14:30 Hrs. (2:30 pm) and 14:30 Hrs. (2:30 pm) to 15:00 Hrs. (3:00 pm). Once again, the monitored data reveals that the level is significantly much lower than that during Kali Puja 2019.

  
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**A GLIMPSE OF IMAGES DURING PUJA FESTIVAL 2020 AT SHILLONG, TURA & JOWAI**



***Crowds Throng the Immersion Site at Polo, Shillong on Immersion Day, 26<sup>th</sup> October 2020***



***Sampling of Water from the Myntdu River at Syntu Ksiar, Jowai on 26<sup>th</sup> October 2020***



***Crowds Throng the Immersion Site Along the Babupara-Rongkhon River at Babupara, Tura, on Immersion Day, 26<sup>th</sup> October 2020***



***Sampling of Water from The Babupara-Rongkhon River During Pre-Immersion Day, 23<sup>rd</sup> October, 2020***





