Republic of the Philippines
Department of Environment and Natural Resources
ENVIRONMENTAL MANAGEMENT BUREAU
Regional Office No. VIII

ENVIRONMENTAL MANAGEMENT BUREAU
RELEASED BY:
DATE: 01/06/2022
TIME: 12:01pm

MEMORANDUM

FOR	:	**ENGR. WILLIAM P. CUÑADO** Director Environmental Management Bureau Visayas Avenue, Diliman, Quezon City
ATTENTION	:	**Chief, Environmental Quality Division** **OIC, Chief, Air Quality Monitoring Section**
FROM	:	**OIC-REGIONAL DIRECTOR** Environmental Management Bureau Region 8, Tacloban City
SUBJECT	:	**ANNUAL AIR QUALITY STATUS REPORT FOR CY 2021**
DATE	:	**January 4, 2022**

Respectfully submitting herewith the Annual Ambient Air Quality Status Report for 2021. The geomean concentration for PM10 is 43.06 ug/Nm^3 and for PM2.5 is 13.06 ug/Nm^3. The Air Quality Index for both is "Good" and the 98th percentile is below the PM10-24hour guideline value of 150 ug/Ncm.

For his information.

ENGR. REYNALDO B. BARRA

Digitally signed by DENR - Environmental Management Bureau Region VIII
DN: cn=DENR - Environmental Management Bureau Region VIII c=PH
Reason: This document is officially certified by EMBR8
Location: Brgy 2, Jones St., DENR Compound, Tacloban City
Date: 2022-03-17 15:58+08:00

I.

PM 10 Monitoring Results

Name : Robinsons PM10 Monitoring Station
(TE-Wilbur Manual – Equipment Used)
Address: Robinsons Place, Marasbaras, Tacloban City
Geographical Coordinates: 11.2072205 N, 125.0077339 E
Inception Date: December 21, 2020
Monitoring Objectives: To provide the necessary guidance in evaluating the concentration of criteria air pollutants measured from the air quality monitoring stations of EMB.
Measured Pollutants: PM 10
Scale Representativeness: Medium
Local Sources of Pollutants: Mobile Vehicles(Mobile Source) & Road and Bldg Repairs(Area Source)
Period Covered: CY 2021
Detailed Siting Assessment: The equipment is elevated 2.5 meters from the ground and is 3 meters away from the roadside.

Results

1st Q PM10		
Date of Sampling	**Sample No.**	**Concentration**
01/06-07/2021	1	66.7 ug/ Nm^3
01/12-13/2021	2	12.5 ug/ Nm^3
01/18-19/2021	3	16.7 ug/ Nm^3
01/24-25/2021	4	45.8 ug/ Nm^3
01/30-31/2021	5	70.8 ug/ Nm^3
02/05-06/2021	6	54.2 ug/ Nm^3
02/11-12/2021	7	41.7 ug/ Nm^3
02/17-18/2021	8	58.3 ug/ Nm^3
02/23-24/2021	9	58.3 ug/ Nm^3
03/01-02/2021	10	41.7 ug/ Nm^3
03/07-08/2021	11	54.2 ug/ Nm^3
03/13-14/2021	12	47.2ug/ Nm^3
03/19-20/2021	13	45.8 ug/ Nm^3
3/25-26/2021	14	25 ug/ Nm^3

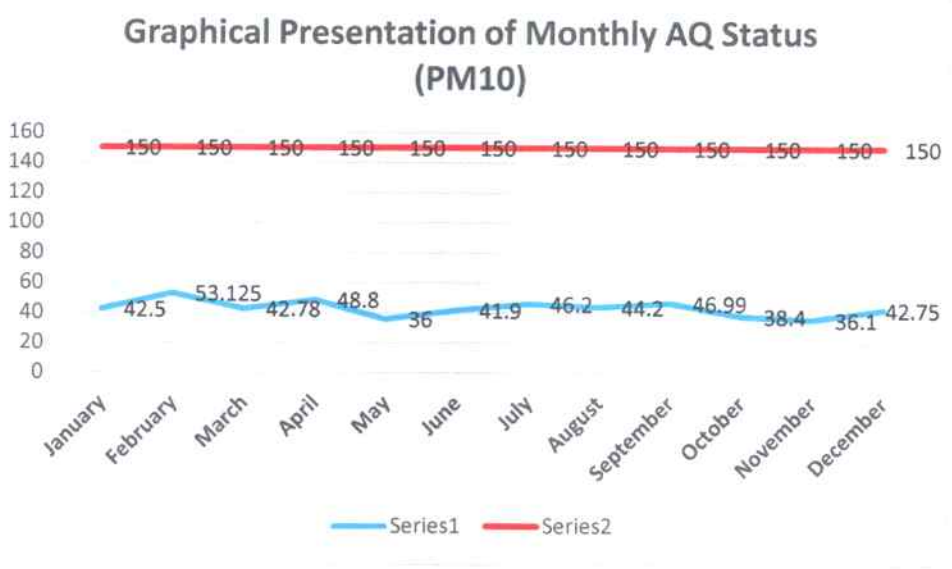
2nd Q PM10		
Date of Sampling	Sample No.	Concentration
Mar 31-1	1	21.3 ug/ Nm^3
Apr 6-7	2	64.6 ug/ Nm^3
Apr 12-13	3	63.3 ug/ Nm^3
Apr 18-19	4	57.9 ug/ Nm^3
Apr 24-25	5	37.1 ug/ Nm^3
Apr 30-1	6	32.92 ug/ Nm^3
May 6-7	7	40.42 ug/ Nm^3
May 12-13	8	32.92 ug/ Nm^3
May 18-19	9	29.58 ug/ Nm^3
May 24-25	10	41.67 ug/ Nm^3
May 30-31	11	38.75 ug/ Nm^3
Jun 5-6	12	47.2 ug/ Nm^3
Jun 11-12	13	29.17 ug/ Nm^3
Jun 17-18	14	45.8 ug/ Nm^3
Jun 23-24	15	37.1 ug/ Nm^3
Jun29-30	16	50.21 ug/ Nm^3

3rd Q PM10		
Date of Sampling	Sample No.	Concentration
Jul 5-6	1	46.25 ug/ Nm^3
Jul 11-12	2	43.33 ug/ Nm^3
Jul 17-18	3	51.25 ug/ Nm^3
Jul 23-24	4	35.83 ug/ Nm^3
Jul 29-30	5	57.09 ug/ Nm^3
Aug 4-5	6	50 ug/ Nm^3
Aug 10-11	7	55 ug/ Nm^3
Aug 16-17	8	53.75 ug/ Nm^3
Aug 22-23	9	34.17 ug/ Nm^3
Aug 28-29	10	33.33 ug/ Nm^3
Sept 3-4	11	35.7 ug/ Nm^3
Sept 9-10	12	58.58 ug/ Nm^3
Sept 15-16	13	59.42 ug/ Nm^3
Sept 21-22	14	52.92 ug/ Nm^3
Sept 27-28	15	28.33 ug/ Nm^3

4th Q PM10		
Date of Sampling	Sample No.	Concentration
Oct 03-04/2021	1	28.75 ug/ Nm^3
Oct 09-10/2021	2	31.25 ug/ Nm^3
Oct 15-16/2021	3	47.28 ug/ Nm^3

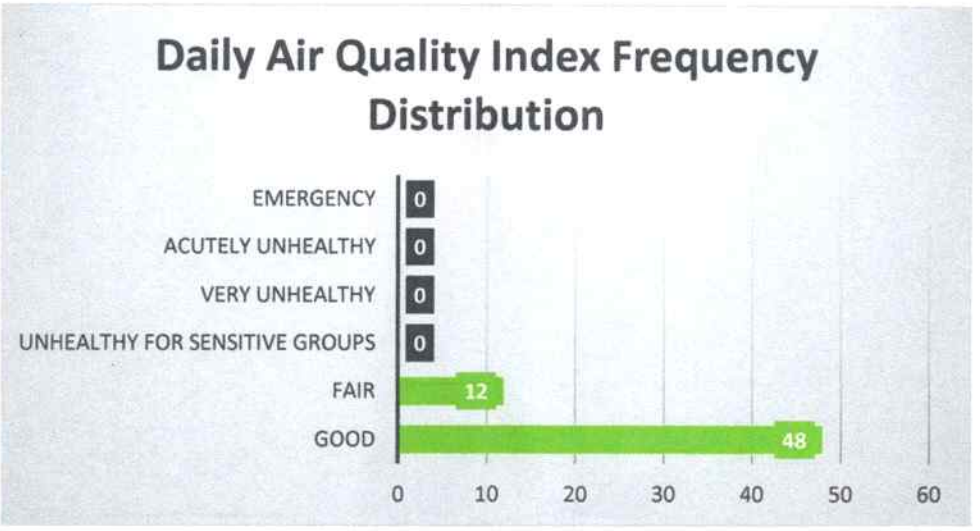
Oct 21-22/2021	4	46.25 ug/ Nm^3
Oct 27-28/2021	5	40.52 ug/ Nm^3
Nov 2-3, 2021	6	40.52 ug/ Nm^3
Nov 8-9, 2021	7	33.33 ug/ Nm^3
Nov 14-15, 2021	8	23.33 ug/ Nm^3
Nov 20-21, 2021	9	25.83 ug/ Nm^3
Nov 26-27, 2021	10	37.08 ug/ Nm^3
Dec 2-3, 2021	11	84.17 ug/ Nm^3
Dec 8-9, 2021	12	57.92 ug/ Nm^3
Dec 20-21, 2021	13	22.08 ug/ Nm^3
Dec 26-27, 2021	14	18.75 ug/ Nm^3
Dec 30-31, 2021	15	30.83 ug/ Nm^3

Annual Geomean = 43.06 ug/Nm^3



Quarterly Capture Rate = 80%

Air Quality Index = Good



II.

PM 2.5 Monitoring Results

Name : Robinsons PM2.5 Monitoring Station
(TE-Wilbur Manual – Equipment Used)

Address: Robinsons Place, Marasbaras, Tacloban City

Geographical Coordinates: 11.2072205 N, 125.0077339 E

Inception Date: December 21, 2020

Monitoring Objectives: To provide the necessary guidance in evaluating the concentration of criteria air pollutants measured from the air quality monitoring stations of EMB.

Measured Pollutants: PM 2.5

Scale Representativeness: Medium

Local Sources of Pollutants: Mobile Vehicles(Mobile Source) & Road and Bldg Repairs(Area Source)

Period Covered: CY 2021

Detailed Siting Assessment: The equipment is elevated 2.5 meters from the ground and is 3 meters away from the roadside.

Results

1st Q PM2.5		
Date of Sampling	**Sample No.**	**Concentration**
jan 7-8	1	8.3 ug/ Nm^3
jan 13-14	2	4.2 ug/ Nm^3
Jan 19-20	3	11.5 ug/ Nm^3
Jan 25-26	4	12.5 ug/ Nm^3
Jan 31-1	5	16.7 ug/ Nm^3
Feb 6-7	6	4.2 ug/ Nm^3
Feb 12-13	7	8.3 ug/ Nm^3
Feb 18-19	8	8.3 ug/ Nm^3
Feb 24-25	9	12.5 ug/ Nm^3
Mar 2-3	10	20.8 ug/ Nm^3
Mar 8-9	11	12.5 ug/ Nm^3
Mar 14-15	12	12.3 ug/ Nm^3
Mar 20-21	13	12.5 ug/ Nm^3
Mar 26-27	14	20.8 ug/ Nm^3
2nd Q PM2.5		
Date of Sampling	**Sample No.**	**Concentration**
Apr 1-2	1	12.5 ug/ Nm^3
Apr 7-8	2	19.6 ug/ Nm^3
Apr 13-14	3	17.5 ug/ Nm^3
Apr 19-20	4	14.6 ug/ Nm^3

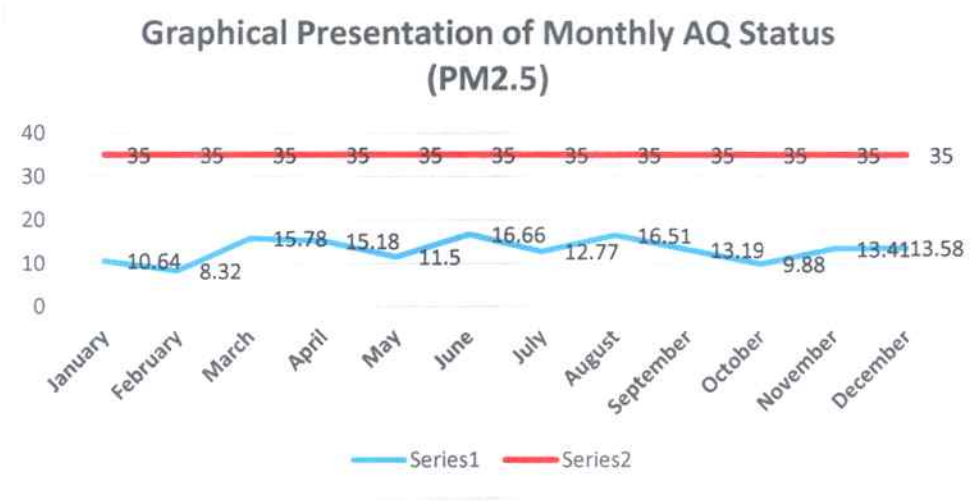
Apr 25-26	5	11.7 ug/ Nm^3
May 1-2	6	21.3 ug/ Nm^3
May 7-8	7	4.17 ug/ Nm^3
May 13-14	8	13.33 ug/ Nm^3
May 19-20	9	6.64 ug/ Nm^3
May 25-26	10	12.08 ug/ Nm^3
May 31-1	11	10.83 ug/ Nm^3
Jun 6-7	12	17.5 ug/ Nm^3
Jun 12-13	13	25 ug/ Nm^3
Jun 18-19	14	14.17 ug/ Nm^3
Jun 24-25	15	15.83 ug/ Nm^3
Jun 30-1	16	10.83 ug/ Nm^3

3rd Q PM2.5		
Date of Sampling	Sample No.	Concentration
Jul 6-7	1	12.92 ug/ Nm^3
Jul 12-13	2	9.17 ug/ Nm^3
Jul 18-19	3	10.83 ug/ Nm^3
Jul 24-25	4	17.92 ug/ Nm^3
Jul 30-31	5	15 ug/ Nm^3
Aug 6-7	6	22.08 ug/ Nm^3
Aug 12-13	7	13.3 ug/ Nm^3
Aug 18-19	8	22.9 ug/ Nm^3
Aug 24-25	9	7.9 ug/ Nm^3
Aug 30-31	10	17.92 ug/ Nm^3
Sept 5-6	11	11.3 ug/ Nm^3
Sept 11-12	12	15.48 ug/ Nm^3
Sept 17-18	13	10.42 ug/ Nm^3
Sept 23-24	14	17.5 ug/ Nm^3
Sept 29-30	15	11.25 ug/ Nm^3

4th Q PM2.5		
Date of Sampling	Sample No.	Concentration
Oct 4-5	1	10.83 ug/ Nm^3
Oct 10-11	2	15.83 ug/ Nm^3
Oct 16-17	3	NoData
Oct 22-23	4	8.3 ug/ Nm^3
Oct 28-29	5	4.58 ug/ Nm^3
Nov 4-5	6	4.58 ug/ Nm^3
Nov 10-11	7	12.08 ug/ Nm^3
Nov 16-17	8	17.08 ug/ Nm^3
Nov 22-23	9	25 ug/ Nm^3

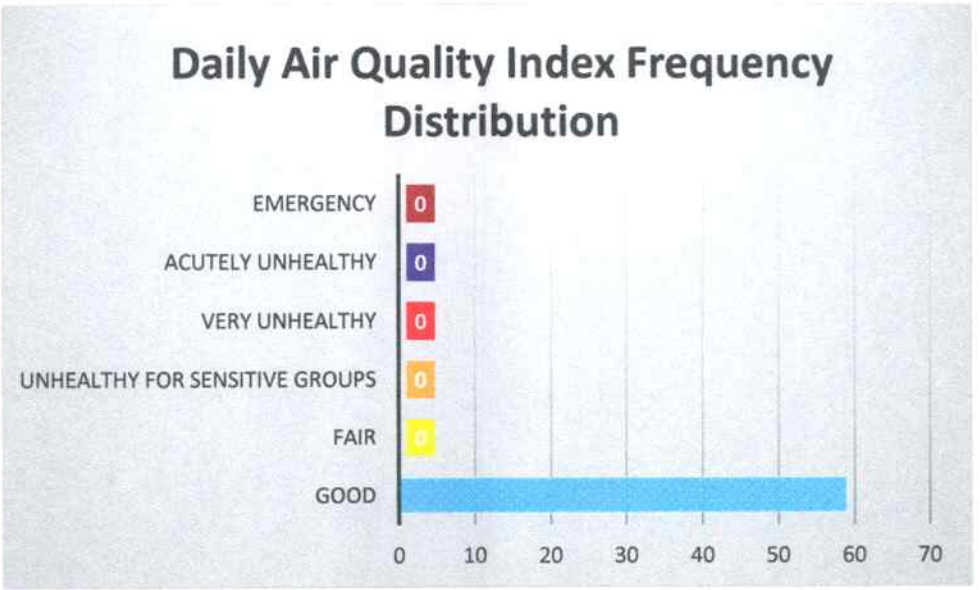
Nov 28-29	**10**	**8.33 ug/ Nm^3**
Dec 4-5	**11**	**10 ug/ Nm^3**
Dec 10-11	**12**	**20 ug/ Nm^3**
Dec 22-23	**13**	**11.67 ug/ Nm^3**
Dec 25-26	**14**	**15.83 ug/ Nm^3**
Dec 28-29	**15**	**10.42 ug/ Nm^3**

Annual Geomean = 13.06 ug/Nm^3



Quarterly Capture Rate = 98%

Air Quality Index = Good



1	12.5
2	16.7
3	18.75
4	21.3
5	22.08
6	23.33
7	25
8	25.83
9	28.33
10	28.75
11	29.17
12	29.58
13	30.83
14	31.25
15	32.92
16	32.92
17	33.33
18	33.33
19	34.17
20	35.7
21	35.83
22	37.08
23	37.1
24	37.1
25	38.75
26	40.42
27	40.52
28	40.52
29	41.67
30	41.7

31	41.7
32	43.33
33	45.8
34	45.8
35	45.8
36	46.25
37	46.25
38	47.2
39	47.2
40	47.28
41	50
42	50.21
43	51.25
44	52.92
45	53.75
46	54.2
47	54.2
48	55
49	57.09
50	57.9
51	57.92
52	58.3
53	58.3
54	58.58
55	59.42
56	63.3
57	64.6
58	66.7
59	70.8
60	84.17

No. Samples		60
Multiply by		0.98
Product		58.8
Rank	Product +1	
Rank		59
Concentration		**70.8**

98th percentile = <u>70.8 ug/ Nm^3</u>

<u>98th Percentile is below the PM10 24-Hour Guideline Value of 150 ug/Ncm.</u>

Pictures of Station

Northward

Southward

Eastward

Westward

Remarks

- No samples were conducted for PMs 10 & 2.5 on December 14-17, 2021 due to the Typhoon Odette.

Contingency Plan		
Scenario	**Remedial Action**	**Responsible**
Equipment is not operational/under maintenance	• Conduct air quality sampling once equipment is fixed and adjustments on the scheduled sampling calendar.	Ambient Air Personnel

Prepared by:

JON VINCENT C. HIJADA
EMS I

Reviewed by:

ARNEL L. IFE
OIC-Chief, AMS

Recommending approval:

FOR. MANUEL J. SACEDA, JR.
OIC-Chief, EMED

Approved by:

ENGR. REYNALDO B. BARRA
OIC-Regional Director