

ภาคผนวก ก

หนังสือรับรองผลการตรวจวิเคราะห์

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คุณภาพอากาศในบรรยากาศ

**Report No. : 2023-5006426 / 001-1 (Page 1 of 8)**

**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: 

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** พื้นที่โครงการ  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-23, 2023  
**SAMPLING BY :** 

Station	Date	Parameter	
		TSP (mg/m <sup>3</sup> )	PM10 (mg/m <sup>3</sup> )
พื้นที่โครงการ	April 20-21, 2023	0.074	0.063
	April 21-22, 2023	0.077	0.061
	April 22-23, 2023	0.071	0.054
Standard *		≤ 0.33	≤ 0.12

**Remark :** - Sampling and analytical technique for TSP based on High Volume Air Sampler / Gravimetric Method and PM10 based on Size Selective High Volume Air Sampler / Gravimetric Method.  
**Source :** \* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).

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SGS (THAILAND) LIMITED



  
 Technical Manager

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**Report No. : 2023-5006426 / 001-1 (Page 2 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :** [REDACTED]

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : พื้นที่โครงการ**

**SAMPLING BY : [REDACTED]**

**LABORATORY NAME : SGS (Thailand) Limited**

Time	NO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.006	0.007	0.005
01:00-02:00	0.009	0.007	0.006
02:00-03:00	0.007	0.007	0.006
03:00-04:00	0.007	0.007	0.006
04:00-05:00	0.007	0.006	0.006
05:00-06:00	0.007	0.005	0.006
06:00-07:00	0.007	0.006	0.006
07:00-08:00	0.004	0.006	0.006
08:00-09:00	0.011	0.007	0.007
09:00-10:00	0.009	0.006	0.008
10:00-11:00	0.008	0.006	0.006
11:00-12:00	0.007	0.007	0.004
12:00-13:00	0.009	0.008	0.006
13:00-14:00	0.009	0.007	0.006
14:00-15:00	0.010	0.007	0.006
15:00-16:00	0.009	0.008	0.006
16:00-17:00	0.011	0.007	0.007
17:00-18:00	0.010	0.007	0.007
18:00-19:00	0.013	0.007	0.006
19:00-20:00	0.009	0.006	0.004
20:00-21:00	0.009	0.006	0.003
21:00-22:00	0.008	0.006	0.003
22:00-23:00	0.007	0.006	0.003
23:00-00:00	0.007	0.006	0.004
<b>1 hr-Minimum</b>	<b>0.004</b>	<b>0.005</b>	<b>0.003</b>
<b>1 hr-Maximum</b>	<b>0.013</b>	<b>0.008</b>	<b>0.008</b>
<b>Avg. 24 hr</b>	<b>0.008</b>	<b>0.007</b>	<b>0.006</b>
<b>Standard* (avg. 1 hr)</b>	<b>≤ 0.17</b>		

**Analytical Method : -** Chemiluminescence Method.

**Source : \*** The notification of the National Environment Board No. 33, B.E. 2552 (2009), subjected "The nitrogen dioxide in ambient air standards", published in the Royal Government Gazette, Vol. 126, Special part 114D, dated August 14, B.E. 2552 (2009).

Technical Manager

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**Report No. : 2023-5006426 / 001-1 (Page 3 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

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**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : พื้นที่โครงการ**

**SAMPLING BY :**

**LABORATORY NAME : SGS (Thailand) Limited**

Time	CO Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.285	0.190	0.265
01:00-02:00	0.274	0.186	0.217
02:00-03:00	0.265	0.177	0.226
03:00-04:00	0.282	0.184	0.225
04:00-05:00	0.297	0.177	0.216
05:00-06:00	0.280	0.170	0.211
06:00-07:00	0.256	0.170	0.195
07:00-08:00	0.315	0.193	0.222
08:00-09:00	0.312	0.231	0.298
09:00-10:00	0.270	0.213	0.214
10:00-11:00	0.247	0.208	0.203
11:00-12:00	0.271	0.202	0.205
12:00-13:00	0.272	0.201	0.196
13:00-14:00	0.278	0.207	0.207
14:00-15:00	0.276	0.252	0.204
15:00-16:00	0.270	0.297	0.236
16:00-17:00	0.276	0.273	0.260
17:00-18:00	0.265	0.260	0.307
18:00-19:00	0.267	0.253	0.475
19:00-20:00	0.270	0.246	0.386
20:00-21:00	0.268	0.239	0.249
21:00-22:00	0.233	0.225	0.220
22:00-23:00	0.212	0.223	0.231
23:00-00:00	0.204	0.225	0.224
1 hr-Minimum	0.204	0.170	0.195
1 hr-Maximum	0.315	0.297	0.475
Avg. 8 hrs	00:00-08:00	0.282	0.181
	08:00-16:00	0.274	0.226
	16:00-00:00	0.249	0.294
Standard* (avg. 1 hr)		≤ 30	
Standard* (avg. 8 hrs)		≤ 9	

**Analytical Method :** - Non-dispersive Infrared (NDIR) Method.

**Source :** \* The notification of the National Environment Board No.10, B.E. 2538 (1995), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 112, Part 42D, dated May 25, B.E. 2538 (1995).



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**Report No. : 2023-5006426 / 001-1 (Page 4 of 8)**

**Issued date :** June 6, 2023

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**CONTACT :**

**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality

**SAMPLING DATE :** April 20-22, 2023

**SAMPLING LOCATION :** พื้นที่โครงการ

**SAMPLING BY :**

**LABORATORY NAME :** SGS (Thailand) Limited

Station	Date	THC (ppm)
พื้นที่โครงการ	April 20, 2023	4.58
	April 21, 2023	5.20
	April 22, 2023	4.28

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SGS (THAILAND) LIMITED



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**Report No. : 2023-5006426 / 001-1 (Page 5 of 8)**

**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** พื้นที่โครงการ  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY :** [REDACTED]

Time	SO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.002	0.002	0.003
01:00-02:00	0.002	0.002	0.003
02:00-03:00	0.003	0.003	0.002
03:00-04:00	0.003	0.003	0.002
04:00-05:00	0.002	0.002	0.003
05:00-06:00	0.003	0.002	0.003
06:00-07:00	0.003	0.003	0.002
07:00-08:00	0.003	0.002	0.002
08:00-09:00	0.003	0.002	0.002
09:00-10:00	0.003	0.002	0.002
10:00-11:00	0.002	0.002	0.002
11:00-12:00	0.002	0.003	0.002
12:00-13:00	0.002	0.003	0.003
13:00-14:00	0.002	0.002	0.003
14:00-15:00	0.003	0.002	0.003
15:00-16:00	0.002	0.002	0.002
16:00-17:00	0.002	0.001	0.002
17:00-18:00	0.002	0.001	0.002
18:00-19:00	0.002	0.001	0.002
19:00-20:00	0.001	0.002	0.003
20:00-21:00	0.002	0.002	0.002
21:00-22:00	0.002	0.002	0.002
22:00-23:00	0.003	0.002	0.002
23:00-00:00	0.002	0.002	0.002
1 hr-Minimum	0.001	0.001	0.002
1 hr-Maximum	0.003	0.003	0.003
Avg. 24 hr	0.002	0.002	0.002
Standard* (avg. 1 hr)	≤ 0.30		
Standard** (avg. 24 hr)	≤ 0.12		

**Analytical Method :**

**Sources :**

- UV Fluorescence Method.

\* The notification of the National Environment Board No.21, B.E. 2544 (2001), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 118, Part 39E, dated April 30, B.E. 2544 (2001).

\*\* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).

SGS (THAILAND) LIMITED

Technical Manager

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**Report No. : 2023-5006426 / 001-1 (Page 6 of 8)**

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**CONTACT :** [REDACTED]

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : พื้นที่โครงการ**

**SAMPLING BY :** [REDACTED]

**LABORATORY NAME : SGS (Thailand) Limited**

TIME	April 20, 2023		April 21, 2023		April 22, 2023	
	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)
00:00-01:00	SE	0.9	-	CALM	-	CALM
01:00-02:00	-	CALM	-	CALM	-	CALM
02:00-03:00	-	CALM	-	CALM	N	0.9
03:00-04:00	-	CALM	-	CALM	-	CALM
04:00-05:00	-	CALM	-	CALM	-	CALM
05:00-06:00	-	CALM	-	CALM	-	CALM
06:00-07:00	-	CALM	-	CALM	-	CALM
07:00-08:00	-	CALM	-	CALM	-	CALM
08:00-09:00	-	CALM	SE	0.9	-	CALM
09:00-10:00	S	1.3	SE	1.3	SSE	1.3
10:00-11:00	SSW	2.2	S	1.8	SE	1.3
11:00-12:00	SW	2.7	S	1.8	SE	1.3
12:00-13:00	SW	3.1	SSW	2.2	SE	1.3
13:00-14:00	SW	3.6	SW	2.7	S	2.2
14:00-15:00	SW	3.6	SW	2.7	SW	2.7
15:00-16:00	SW	3.1	SW	2.7	SSW	2.7
16:00-17:00	SW	2.7	SW	2.7	SW	2.7
17:00-18:00	SSW	2.2	SW	3.1	SW	3.1
18:00-19:00	SSW	1.8	SSW	1.8	SW	2.2
19:00-20:00	SSW	0.9	SSW	0.9	SSW	1.3
20:00-21:00	-	CALM	-	CALM	S	0.9
21:00-22:00	-	CALM	-	CALM	-	CALM
22:00-23:00	-	CALM	-	CALM	-	CALM
23:00-00:00	-	CALM	-	CALM	-	CALM

**Measurement Method :** - Wind Speed and Wind Direction recording meter

**Remarks :** - WS = Wind Speed  
- WD = Wind Direction



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**Report No. : 2023-5006426 / 001-1 (Page 7 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :** [REDACTED]

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : พื้นที่โครงการ**

**SAMPLING BY :** [REDACTED]

**LABORATORY NAME : SGS (Thailand) Limited**

Wind Speed Wind Direction	Percent of Wind Speed (%)				
	0.5-1.0 m/s	1.1-2.0 m/s	2.1-3.0 m/s	3.1-4.0 m/s	>4.0 m/s
N	1.39	-	-	-	-
NNE	-	-	-	-	-
NE	-	-	-	-	-
ENE	-	-	-	-	-
E	-	-	-	-	-
ESE	-	-	-	-	-
SE	2.78	5.56	-	-	-
SSE	0.00	1.39	-	-	-
S	1.39	4.17	1.39	-	-
SSW	2.78	4.17	5.56	-	-
SW	-	-	12.50	8.33	-
WSW	-	-	-	-	-
W	-	-	-	-	-
WNW	-	-	-	-	-
NW	-	-	-	-	-
NNW	-	-	-	-	-
<b>CALM</b>	<b>48.61</b>				

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**Report No. : 2023-5006426 / 001-1 (Page 8 of 8)**

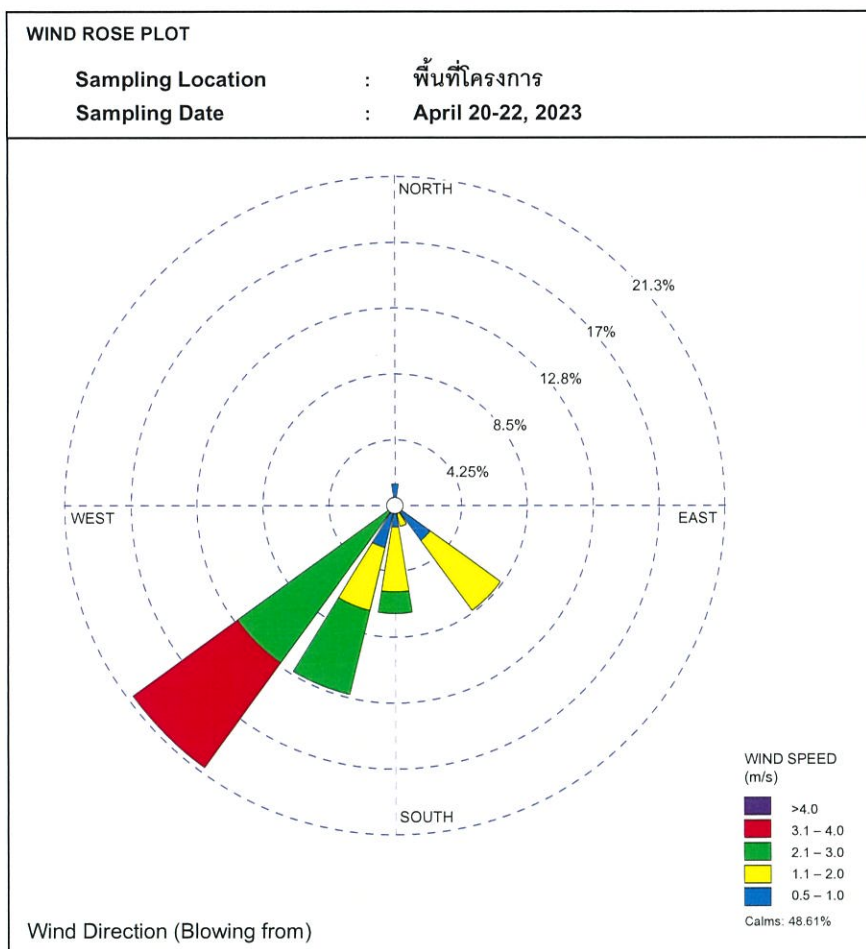
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 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** พื้นที่โครงการ  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY** [REDACTED]



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**Report No. : 2023-5006426/ 001-2 (Page 1 of 8)**

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 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านท่าโสม  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-23, 2023  
**SAMPLING BY :** [REDACTED]

Station	Date	Parameter	
		TSP (mg/m <sup>3</sup> )	PM10 (mg/m <sup>3</sup> )
บ้านท่าโสม	April 20-21, 2023	0.067	0.046
	April 21-22, 2023	0.071	0.053
	April 22-23, 2023	0.058	0.042
Standard *		≤ 0.33	≤ 0.12

**Remark :** - Sampling and analytical technique for TSP based on High Volume Air Sampler / Gravimetric Method and PM10 based on Size Selective High Volume Air Sampler / Gravimetric Method.  
**Source :** \* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).

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E 264201

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**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านท่าโสม  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY :** [REDACTED]

Time	NO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.004	0.003	0.003
01:00-02:00	0.002	0.003	0.003
02:00-03:00	0.002	0.003	0.002
03:00-04:00	0.002	0.002	0.002
04:00-05:00	0.002	0.001	0.002
05:00-06:00	0.003	0.002	0.003
06:00-07:00	0.002	0.002	0.003
07:00-08:00	0.002	0.001	0.003
08:00-09:00	0.003	0.002	0.002
09:00-10:00	0.003	0.002	0.004
10:00-11:00	0.002	0.003	0.003
11:00-12:00	0.002	0.004	0.002
12:00-13:00	0.001	0.003	0.002
13:00-14:00	0.002	0.002	0.003
14:00-15:00	0.002	0.004	0.002
15:00-16:00	0.002	0.003	0.002
16:00-17:00	0.003	0.003	0.002
17:00-18:00	0.002	0.003	0.002
18:00-19:00	0.002	0.002	0.001
19:00-20:00	0.002	0.002	0.001
20:00-21:00	0.002	0.001	0.002
21:00-22:00	0.003	0.002	0.001
22:00-23:00	0.002	0.003	0.002
23:00-00:00	0.003	0.003	0.003
1 hr-Minimum	0.001	0.001	0.001
1 hr-Maximum	0.004	0.004	0.004
Avg. 24 hr	0.002	0.003	0.002
Standard* (avg. 1 hr)	≤ 0.17		

**Analytical Method :** - Chemiluminescence Method.  
**Source :** \* The notification of the National Environment Board No. 33, B.E. 2552 (2009), subjected "The nitrogen dioxide in ambient air standards", published in the Royal Government Gazette, Vol. 126, Special part 114D, dated August 14, B.E. 2552 (2009).



SGS (THAILAND) LIMITED

Technical Manager

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E 264202



**Report No. : 2023-5006426/ 001-2 (Page 3 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**  
**CONTACT :**  
**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**  
**SAMPLING LOCATION : บ้านท่าโสม**  
**LABORATORY NAME : SGS (Thailand) Limited**

**SAMPLING DATE : April 20-22, 2023**  
**SAMPLING BY : S**

Time	CO Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.312	0.340	0.339
01:00-02:00	0.141	0.396	0.256
02:00-03:00	0.188	0.426	0.324
03:00-04:00	0.355	0.416	0.438
04:00-05:00	0.398	0.466	0.131
05:00-06:00	0.377	0.438	0.393
06:00-07:00	0.167	0.261	0.190
07:00-08:00	0.417	0.397	0.603
08:00-09:00	0.395	0.448	0.395
09:00-10:00	0.547	0.438	0.546
10:00-11:00	0.446	0.411	0.718
11:00-12:00	0.484	0.400	0.755
12:00-13:00	0.545	0.355	0.259
13:00-14:00	0.533	0.451	0.169
14:00-15:00	0.525	0.294	0.229
15:00-16:00	0.579	0.375	0.211
16:00-17:00	0.481	0.377	0.169
17:00-18:00	0.440	0.330	0.146
18:00-19:00	0.448	0.238	0.276
19:00-20:00	0.416	0.331	0.143
20:00-21:00	0.324	0.312	0.185
21:00-22:00	0.362	0.286	0.281
22:00-23:00	0.312	0.245	0.332
23:00-00:00	0.394	0.239	0.260
1 hr-Minimum	0.141	0.238	0.131
1 hr-Maximum	0.579	0.466	0.755
Avg. 8 hrs	00:00-08:00	0.294	0.334
	08:00-16:00	0.507	0.410
	16:00-00:00	0.397	0.224
Standard* (avg. 1 hr)		≤ 30	
Standard* (avg. 8 hrs)		≤ 9	

**Analytical Method :** - Non-dispersive Infrared (NDIR) Method.  
**Source :** \* The notification of the National Environment Board No.10, B.E. 2538 (1995), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 112, Part 42D, dated May 25, B.E. 2538 (1995).



Technical Manager

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**Report No. : 2023-5006426/ 001-2 (Page 4 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านท่าโลม**

**SAMPLING BY : S**

**LABORATORY NAME : SGS (Thailand) Limited**

Station	Date	THC (ppm)
บ้านท่าโลม	April 20, 2023	3.80
	April 21, 2023	3.26
	April 22, 2023	3.80



SGS (THAILAND) LIMITED

Technical Manager

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E 264204



**Report No. : 2023-5006426/ 001-2 (Page 5 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านท่าโสม**

**SAMPLING BY : S**

**LABORATORY NAME : SGS (Thailand) Limited**

Time	SO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.002	0.002	0.002
01:00-02:00	0.002	0.002	0.002
02:00-03:00	0.002	0.003	0.003
03:00-04:00	0.002	0.002	0.002
04:00-05:00	0.003	0.002	0.002
05:00-06:00	0.003	0.002	0.002
06:00-07:00	0.003	0.002	0.003
07:00-08:00	0.003	0.003	0.003
08:00-09:00	0.003	0.003	0.003
09:00-10:00	0.002	0.003	0.002
10:00-11:00	0.002	0.002	0.002
11:00-12:00	0.003	0.002	0.003
12:00-13:00	0.003	0.003	0.002
13:00-14:00	0.003	0.003	0.003
14:00-15:00	0.003	0.003	0.002
15:00-16:00	0.003	0.003	0.002
16:00-17:00	0.002	0.003	0.003
17:00-18:00	0.002	0.002	0.003
18:00-19:00	0.003	0.002	0.003
19:00-20:00	0.003	0.002	0.003
20:00-21:00	0.003	0.003	0.002
21:00-22:00	0.003	0.003	0.002
22:00-23:00	0.002	0.003	0.003
23:00-00:00	0.002	0.002	0.002
1 hr-Minimum	0.002	0.002	0.002
1 hr-Maximum	0.003	0.003	0.003
Avg. 24 hr	0.003	0.003	0.003
Standard* (avg. 1 hr)	≤ 0.30		
Standard** (avg. 24 hr)	≤ 0.12		

**Analytical Method :** - UV Fluorescence Method.

**Sources :** \* The notification of the National Environment Board No.21, B.E. 2544 (2001), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 118, Part 39E, dated April 30, B.E. 2544 (2001).

\*\* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).



SGS (THAILAND) LIMITED

Technical Manager

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**Report No. : 2023-5006426/ 001-2 (Page 6 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านท่าไสม**

**SAMPLING BY : S**

**LABORATORY NAME : SGS (Thailand) Limited**

TIME	April 20, 2023		April 21, 2023		April 22, 2023	
	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)
00:00-01:00	-	CALM	-	CALM	SSE	0.9
01:00-02:00	-	CALM	-	CALM	-	CALM
02:00-03:00	-	CALM	-	CALM	-	CALM
03:00-04:00	-	CALM	-	CALM	-	CALM
04:00-05:00	-	CALM	-	CALM	-	CALM
05:00-06:00	-	CALM	-	CALM	SSE	0.9
06:00-07:00	-	CALM	-	CALM	-	CALM
07:00-08:00	-	CALM	-	CALM	-	CALM
08:00-09:00	-	CALM	SSE	0.9	-	CALM
09:00-10:00	-	CALM	SSE	1.3	SSE	0.9
10:00-11:00	-	CALM	SSE	1.3	SE	1.3
11:00-12:00	S	1.3	SSE	0.9	SSE	0.9
12:00-13:00	SSE	1.3	-	CALM	NNW	1.8
13:00-14:00	S	1.8	S	1.3	SSE	1.3
14:00-15:00	SSE	1.8	S	1.8	S	1.3
15:00-16:00	SSE	1.3	S	1.3	SSE	1.3
16:00-17:00	S	1.3	S	1.3	SSE	1.3
17:00-18:00	S	1.3	SSE	1.3	SSE	1.3
18:00-19:00	S	0.9	SSW	0.9	S	0.9
19:00-20:00	-	CALM	-	CALM	-	CALM
20:00-21:00	-	CALM	-	CALM	-	CALM
21:00-22:00	-	CALM	-	CALM	-	CALM
22:00-23:00	-	CALM	-	CALM	-	CALM
23:00-00:00	-	CALM	-	CALM	-	CALM

**Measurement Method :** - Wind Speed and Wind Direction recording meter

**Remarks :** - WS = Wind Speed  
- WD = Wind Direction



Technical Manager

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E 264206



**Report No. : 2023-5006426/ 001-2 (Page 7 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านท่าโสม**

**SAMPLING BY : S**

**LABORATORY NAME : SGS (Thailand) Limited**

Wind Speed Wind Direction	Percent of Wind Speed (%)				
	0.5-1.0 m/s	1.1-2.0 m/s	2.1-3.0 m/s	3.1-4.0 m/s	>4.0 m/s
N	-	-	-	-	-
NNE	-	-	-	-	-
NE	-	-	-	-	-
ENE	-	-	-	-	-
E	-	-	-	-	-
ESE	-	-	-	-	-
SE	-	1.39	-	-	-
SSE	8.33	13.89	-	-	-
S	2.78	12.50	-	-	-
SSW	1.39	-	-	-	-
SW	-	-	-	-	-
WSW	-	-	-	-	-
W	-	-	-	-	-
WNW	-	-	-	-	-
NW	-	-	-	-	-
NNW	-	1.39	-	-	-
CALM	58.33				

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SGS (THAILAND) LIMITED



Technical Manager

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E 264207

**Report No. : 2023-5006426/ 001-2 (Page 8 of 8)**

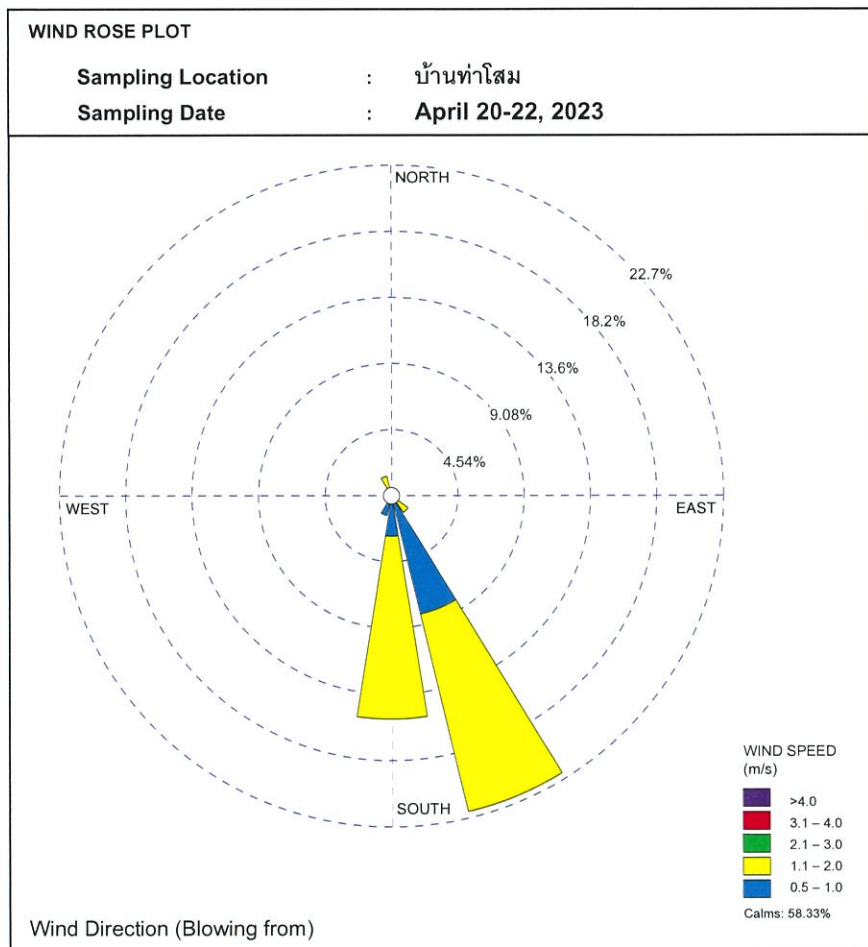
**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านท่าโสม  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY :** [REDACTED]



SGS (THAILAND) LIMITED

Technical Manager

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E 264422

**Report No. : 2023-5006426/ 001-3 (Page 1 of 8)**

**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านบางกระดาน  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-23, 2023  
**SAMPLING BY :**

Station	Date	Parameter	
		TSP (mg/m <sup>3</sup> )	PM10 (mg/m <sup>3</sup> )
บ้านบางกระดาน	April 20-21, 2023	0.069	0.054
	April 21-22, 2023	0.065	0.055
	April 22-23, 2023	0.050	0.032
Standard *		≤ 0.33	≤ 0.12

**Remark :** - Sampling and analytical technique for TSP based on High Volume Air Sampler / Gravimetric Method and PM10 based on Size Selective High Volume Air Sampler / Gravimetric Method.  
**Source :** \* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).

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Technical Manager

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**Report No. : 2023-5006426/ 001-3 (Page 2 of 8)**

**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: 

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านบางกระดาน  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY :** 

Time	NO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.005	0.004	0.006
01:00-02:00	0.004	0.003	0.005
02:00-03:00	0.004	0.003	0.005
03:00-04:00	0.004	0.003	0.005
04:00-05:00	0.004	0.003	0.005
05:00-06:00	0.004	0.003	0.006
06:00-07:00	0.006	0.004	0.005
07:00-08:00	0.007	0.004	0.006
08:00-09:00	0.005	0.005	0.007
09:00-10:00	0.003	0.004	0.005
10:00-11:00	0.003	0.004	0.006
11:00-12:00	0.004	0.005	0.006
12:00-13:00	0.004	0.005	0.005
13:00-14:00	0.004	0.005	0.005
14:00-15:00	0.004	0.006	0.005
15:00-16:00	0.004	0.006	0.005
16:00-17:00	0.004	0.006	0.005
17:00-18:00	0.003	0.005	0.005
18:00-19:00	0.003	0.005	0.005
19:00-20:00	0.003	0.005	0.004
20:00-21:00	0.003	0.006	0.005
21:00-22:00	0.005	0.008	0.007
22:00-23:00	0.005	0.008	0.005
23:00-00:00	0.004	0.006	0.005
1 hr-Minimum	0.003	0.003	0.004
1 hr-Maximum	0.007	0.008	0.007
Avg. 24 hr	0.004	0.005	0.005
Standard* (avg. 1 hr)	≤ 0.17		

**Analytical Method :** - Chemiluminescence Method.

**Source :** \* The notification of the National Environment Board No. 33, B.E. 2552 (2009), subjected "The nitrogen dioxide in ambient air standards", published in the Royal Government Gazette, Vol. 126, Special part 114D, dated August 14, B.E. 2552 (2009).



SGS (THAILAND) LIMITED

Technical Manager

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E 264210

**Report No. : 2023-5006426/ 001-3 (Page 3 of 8)**

**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านบางกระดาน  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY**

Time		CO Concentration (ppm)		
		April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00		0.340	0.245	0.244
01:00-02:00		0.335	0.224	0.223
02:00-03:00		0.324	0.216	0.232
03:00-04:00		0.313	0.215	0.220
04:00-05:00		0.306	0.221	0.208
05:00-06:00		0.298	0.216	0.208
06:00-07:00		0.320	0.228	0.203
07:00-08:00		0.363	0.259	0.246
08:00-09:00		0.329	0.247	0.259
09:00-10:00		0.327	0.234	0.205
10:00-11:00		0.293	0.231	0.215
11:00-12:00		0.325	0.383	0.220
12:00-13:00		0.323	0.432	0.230
13:00-14:00		0.335	0.315	0.225
14:00-15:00		0.334	0.339	0.228
15:00-16:00		0.329	0.328	0.224
16:00-17:00		0.326	0.301	0.219
17:00-18:00		0.311	0.277	0.212
18:00-19:00		0.284	0.262	0.216
19:00-20:00		0.277	0.241	0.200
20:00-21:00		0.286	0.236	0.192
21:00-22:00		0.284	0.263	0.198
22:00-23:00		0.383	0.303	0.201
23:00-00:00		0.268	0.257	0.212
1 hr-Minimum		0.268	0.215	0.192
1 hr-Maximum		0.383	0.432	0.259
Avg. 8 hrs	00:00-08:00	0.325	0.228	0.223
	08:00-16:00	0.324	0.314	0.226
	16:00-00:00	0.302	0.268	0.206
Standard* (avg. 1 hr)		≤ 30		
Standard* (avg. 8 hrs)		≤ 9		

**Analytical Method :** - Non-dispersive Infrared (NDIR) Method.  
**Source :** \* The notification of the National Environment Board No.10, B.E. 2538 (1995), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 112, Part 42D, dated May 25, B.E. 2538 (1995).



Technical Manager

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**E 264211**



**Report No. : 2023-5006426/ 001-3 (Page 4 of 8)**

**Issued date : June 6, 2023**

**CLIENT** : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Ambient Air Quality  
**SAMPLING LOCATION** : บ้านบางกระดาน  
**LABORATORY NAME** : SGS (Thailand) Limited

**SAMPLING DATE** : April 20-22, 2023

**SAMPLING BY**

Station	Date	THC (ppm)
บ้านบางกระดาน	April 20, 2023	4.43
	April 21, 2023	3.71
	April 22, 2023	3.55



SGS (THAILAND) LIMITED

Technical Manager

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E 264212

**Report No. : 2023-5006426/ 001-3 (Page 5 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :** [REDACTED]

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านบางกระดาน**

**SAMPLING BY :** [REDACTED]

**LABORATORY NAME : SGS (Thailand) Limited**

Time	SO <sub>2</sub> Concentration (ppm)		
	April 20, 2023	April 21, 2023	April 22, 2023
00:00-01:00	0.002	0.003	0.002
01:00-02:00	0.002	0.003	0.002
02:00-03:00	0.002	0.001	0.003
03:00-04:00	0.002	0.003	0.002
04:00-05:00	0.003	0.003	0.002
05:00-06:00	0.004	0.002	0.002
06:00-07:00	0.004	0.002	0.002
07:00-08:00	0.003	0.002	0.003
08:00-09:00	0.003	0.003	0.003
09:00-10:00	0.003	0.003	0.003
10:00-11:00	0.004	0.003	0.004
11:00-12:00	0.003	0.004	0.004
12:00-13:00	0.002	0.004	0.004
13:00-14:00	0.004	0.004	0.004
14:00-15:00	0.003	0.004	0.003
15:00-16:00	0.003	0.003	0.003
16:00-17:00	0.004	0.002	0.003
17:00-18:00	0.004	0.002	0.003
18:00-19:00	0.002	0.003	0.002
19:00-20:00	0.002	0.002	0.003
20:00-21:00	0.003	0.003	0.002
21:00-22:00	0.002	0.003	0.002
22:00-23:00	0.003	0.003	0.002
23:00-00:00	0.003	0.001	0.003
1 hr-Minimum	0.002	0.001	0.002
1 hr-Maximum	0.004	0.004	0.004
Avg. 24 hr	0.003	0.003	0.003
Standard* (avg. 1 hr)	≤ 0.30		
Standard** (avg. 24 hr)	≤ 0.12		

**Analytical Method :** - UV Fluorescence Method.

**Sources :** \* The notification of the National Environment Board No.21, B.E. 2544 (2001), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 118, Part 39E, dated April 30, B.E. 2544 (2001).  
\*\* The notification of the National Environment Board No. 24, B.E. 2547 (2004), subjected "The ambient air standards", published in the Royal Government Gazette, Vol. 121, Part 104D, dated September 22, B.E. 2547 (2004).

**Technical Manager**

**SGS (THAILAND) LIMITED**

**TY/SE/SJS/SJS**

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**Report No. : 2023-5006426/ 001-3 (Page 6 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านบางกระดาน**

**SAMPLING BY**

**LABORATORY NAME : SGS (Thailand) Limited**

TIME	April 20, 2023		April 21, 2023		April 22, 2023	
	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)
00:00-01:00	-	CALM	-	CALM	-	CALM
01:00-02:00	-	CALM	-	CALM	-	CALM
02:00-03:00	-	CALM	-	CALM	-	CALM
03:00-04:00	-	CALM	-	CALM	-	CALM
04:00-05:00	-	CALM	-	CALM	-	CALM
05:00-06:00	-	CALM	-	CALM	-	CALM
06:00-07:00	-	CALM	-	CALM	-	CALM
07:00-08:00	-	CALM	-	CALM	-	CALM
08:00-09:00	-	CALM	-	CALM	-	CALM
09:00-10:00	-	CALM	-	CALM	-	CALM
10:00-11:00	-	CALM	-	CALM	-	CALM
11:00-12:00	-	CALM	WSW	0.9	-	CALM
12:00-13:00	-	CALM	WNW	0.9	-	CALM
13:00-14:00	WNW	0.9	WSW	0.9	-	CALM
14:00-15:00	WNW	0.9	W	0.9	WSW	0.9
15:00-16:00	-	CALM	-	CALM	S	0.9
16:00-17:00	-	CALM	WSW	0.9	WSW	0.9
17:00-18:00	-	CALM	-	CALM	SW	0.9
18:00-19:00	-	CALM	-	CALM	SW	0.9
19:00-20:00	-	CALM	-	CALM	-	CALM
20:00-21:00	-	CALM	-	CALM	-	CALM
21:00-22:00	-	CALM	-	CALM	-	CALM
22:00-23:00	-	CALM	-	CALM	-	CALM
23:00-00:00	-	CALM	-	CALM	-	CALM

**Measurement Method :** - Wind Speed and Wind Direction recording meter

**Remarks :** - WS = Wind Speed  
- WD = Wind Direction



SGS (THAILAND) LIMITED

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Technical Manager

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E 264214



**Report No. : 2023-5006426/ 001-3 (Page 7 of 8)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Ambient Air Quality**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : บ้านบางกระดาน**

**SAMPLING BY**

**LABORATORY NAME : SGS (Thailand) Limited**

Wind Speed Wind Direction	Percent of Wind Speed (%)				
	0.5-1.0 m/s	1.1-2.0 m/s	2.1-3.0 m/s	3.1-4.0 m/s	>4.0 m/s
N	-	-	-	-	-
NNE	-	-	-	-	-
NE	-	-	-	-	-
ENE	-	-	-	-	-
E	-	-	-	-	-
ESE	-	-	-	-	-
SE	-	-	-	-	-
SSE	-	-	-	-	-
S	1.39	-	-	-	-
SSW	-	-	-	-	-
SW	2.78	-	-	-	-
WSW	6.94	-	-	-	-
W	1.39	-	-	-	-
WNW	4.17	-	-	-	-
NW	-	-	-	-	-
NNW	-	-	-	-	-
<b>CALM</b>	<b>83.33</b>				

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Technical Manager

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**Report No. : 2023-5006426/ 001-3 (Page 8 of 8)**

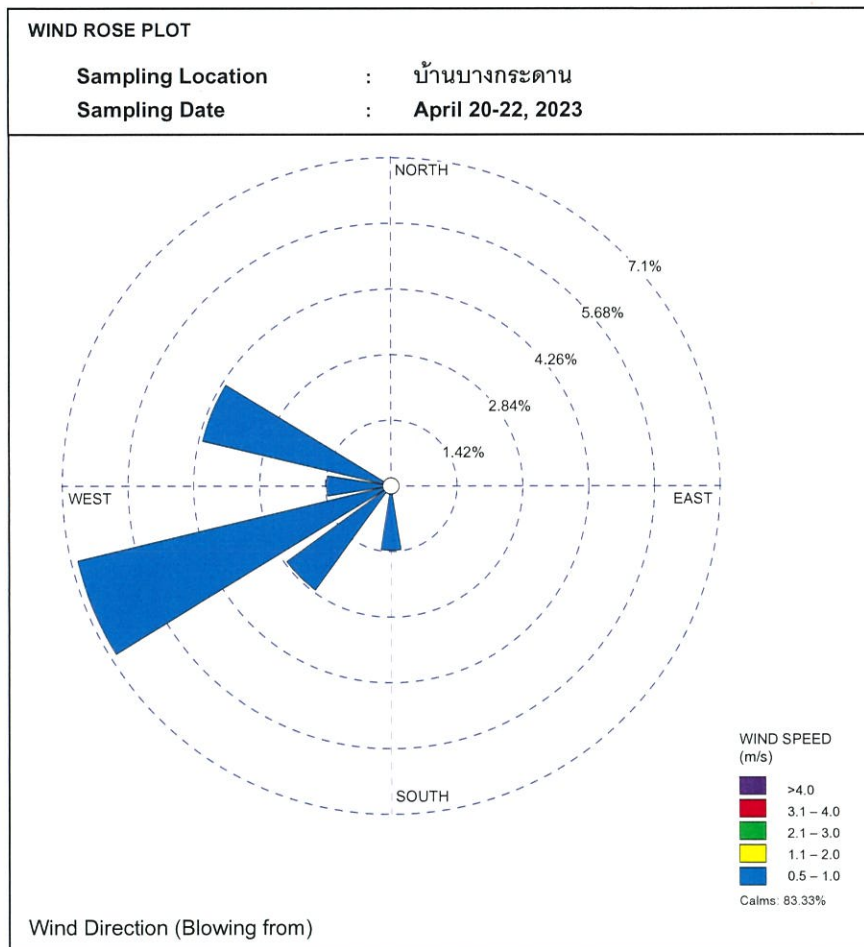
**Issued date : June 6, 2023**

**CLIENT :** BANGKOK AIRWAYS (PUBLIC) COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Ambient Air Quality  
**SAMPLING LOCATION :** บ้านบางกระดาน  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** April 20-22, 2023  
**SAMPLING BY :** [REDACTED]



Technical Manager

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E 264423

ระดับเสียงทั่วไป (Leq-24 hr)



**Report No. : 2023-5006426 / 002-1 (Page 1 of 1)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Noise Level**

**MEASUREMENT DATE : April 20-22, 2023**

**MEASUREMENT LOCATION : พื้นที่โครงการ**

**MEASUREMENT BY**

**CALIBRATION DATA**

: Model CR:515, Cirrus Research plc, Serial No. 88336,

Calibration Value Reference: 94.0 dB(A), Pre Cal. : 93.7 dB(A), Post Cal. : 93.7 dB(A)

**SOUND LEVEL METER NO. : Model CR:171B, Cirrus Research plc, Serial No. G078054**

Time	Noise Level [dB(A)]									Standard <sup>1/</sup>
	April 20, 2023			April 21, 2023			April 22, 2023			
	Leq	Lmax	L90	Leq	Lmax	L90	Leq	Lmax	L90	
00:00-01:00	49.6	58.7	44.0	45.9	53.7	41.8	44.2	57.0	40.4	
01:00-02:00	48.2	57.3	44.4	40.5	60.3	34.7	43.5	52.8	39.6	
02:00-03:00	44.8	60.8	42.5	40.1	58.4	36.1	44.8	61.1	40.7	
03:00-04:00	45.2	71.1	40.8	43.1	56.0	39.0	43.1	59.7	40.5	
04:00-05:00	47.4	73.3	45.0	48.1	77.2	39.7	46.1	70.8	41.4	
05:00-06:00	49.6	72.2	45.9	56.0	79.9	47.4	56.3	78.2	45.1	
06:00-07:00	48.3	67.6	43.1	49.6	77.9	42.9	49.7	71.8	42.2	
07:00-08:00	50.9	85.4	40.3	54.0	90.8	40.4	54.4	91.8	42.2	
08:00-09:00	56.9	92.6	46.4	51.7	84.3	43.8	51.6	85.5	44.5	
09:00-10:00	51.8	75.8	43.1	49.1	75.0	42.6	51.3	76.8	44.5	
10:00-11:00	47.6	66.7	44.5	46.7	72.0	40.6	51.6	66.1	40.4	
11:00-12:00	48.4	63.3	44.9	46.6	68.9	41.4	50.1	65.2	42.6	
12:00-13:00	58.5	79.9	47.8	58.1	80.0	43.5	64.7	80.4	43.5	
13:00-14:00	62.0	81.7	47.6	61.8	82.4	42.7	59.2	82.8	42.1	
14:00-15:00	49.1	67.9	44.6	47.1	67.8	43.6	47.2	67.2	42.0	
15:00-16:00	48.6	67.9	44.3	48.4	69.0	44.3	46.8	63.8	42.5	
16:00-17:00	52.1	69.1	44.5	58.0	81.0	43.1	56.1	79.4	43.6	
17:00-18:00	63.9	83.0	43.8	61.8	84.3	42.5	61.5	79.4	46.4	
18:00-19:00	48.2	67.2	43.7	47.3	64.7	41.8	50.9	73.6	42.4	
19:00-20:00	48.8	64.6	45.7	46.7	69.6	39.0	46.2	74.8	37.4	
20:00-21:00	47.8	55.8	41.7	47.7	57.0	42.8	38.7	51.4	35.7	
21:00-22:00	44.2	59.9	39.0	48.5	70.7	42.0	39.6	61.9	36.6	
22:00-23:00	43.7	55.1	39.4	47.1	64.6	44.0	39.3	57.9	37.3	
23:00-00:00	42.3	56.7	36.4	46.6	59.0	44.8	39.9	57.1	37.1	
Leq 24 hrs	54.4	-	-	54.0	-	-	54.9	-	-	≤ 70
Ldn	56.6	-	-	57.2	-	-	57.5	-	-	-
Lmax	-	92.6	-	-	90.8	-	-	91.8	-	≤ 115

**Source :** <sup>1/</sup> Notification of the National Environment Board No.15, B.E. 2540 (1



Technical Manager

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**Report No. : 2023-5006426 / 002-2 (Page 1 of 1)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Noise Level**

**MEASUREMENT DATE: April 20-22, 2023**

**MEASUREMENT LOCATION : บ้านท่าโสม**

**MEASUREMENT BY**

**CALIBRATION DATA : Model CR:515, Cirrus Research plc, Serial No. 88336,**

**Calibration Value Reference: 94.0 dB(A), Pre Cal. : 93.7 dB(A), Post Cal. : 93.7 dB(A)**

**SOUND LEVEL METER NO. : Model CR:171B, Cirrus Research plc, Serial No. G078138**

Time	Noise Level [dB(A)]									Standard <sup>1/</sup>
	April 20, 2023			April 21, 2023			April 22, 2023			
	Leq	Lmax	L90	Leq	Lmax	L90	Leq	Lmax	L90	
00:00-01:00	49.9	74.3	42.7	49.7	69.2	46.9	47.2	67.2	44.4	
01:00-02:00	44.0	57.5	42.5	48.7	67.7	47.0	46.4	65.4	44.1	
02:00-03:00	46.0	59.5	42.7	48.2	58.6	47.0	46.1	56.2	44.2	
03:00-04:00	45.5	57.3	42.2	48.0	60.6	46.5	46.9	60.2	45.0	
04:00-05:00	47.3	63.9	43.4	47.5	58.5	46.1	46.7	60.8	44.1	
05:00-06:00	49.7	61.8	46.0	50.0	63.6	47.7	47.6	62.3	45.3	
06:00-07:00	51.7	70.8	47.3	50.9	67.8	48.6	50.0	66.0	46.5	
07:00-08:00	52.0	67.0	48.5	51.4	67.6	48.5	49.5	59.9	47.2	
08:00-09:00	52.9	71.8	49.2	50.2	65.9	48.0	49.4	60.9	47.3	
09:00-10:00	52.4	66.7	48.3	50.3	72.4	48.2	50.3	69.4	46.4	
10:00-11:00	53.3	73.9	49.6	49.5	63.3	47.3	49.0	64.4	46.1	
11:00-12:00	52.8	70.5	49.5	50.8	74.4	47.5	48.6	72.6	46.6	
12:00-13:00	53.0	72.9	50.9	51.2	64.6	48.5	49.2	64.3	46.6	
13:00-14:00	51.8	63.7	49.5	52.8	68.7	50.8	51.5	72.9	47.4	
14:00-15:00	51.8	66.9	49.4	53.5	69.1	49.4	49.7	68.4	47.1	
15:00-16:00	53.4	72.9	50.5	49.5	64.0	46.9	49.1	65.3	46.6	
16:00-17:00	52.8	74.7	49.3	51.0	67.7	47.7	49.8	71.1	47.5	
17:00-18:00	51.6	67.5	49.2	49.6	61.8	47.3	49.9	65.9	47.3	
18:00-19:00	51.3	63.0	48.8	49.9	65.1	47.4	49.3	64.3	46.5	
19:00-20:00	53.9	75.5	49.1	52.4	76.9	46.7	50.1	72.2	45.5	
20:00-21:00	54.6	83.0	47.6	48.2	59.2	46.2	46.8	65.0	44.4	
21:00-22:00	58.1	82.4	47.0	48.2	64.3	45.9	46.8	59.4	44.7	
22:00-23:00	54.6	75.9	46.9	48.2	66.2	45.5	45.4	56.0	42.7	
23:00-00:00	53.8	77.9	46.8	47.6	58.1	45.9	45.3	71.8	40.2	
Leq 24 hrs	52.6	-	-	50.2	-	-	48.7	-	-	≤ 70
Ldn	57.5	-	-	55.7	-	-	53.9	-	-	-
Lmax	-	83.0	-	-	76.9	-	-	72.9	-	< 115

**Source : <sup>1/</sup> Notification of the National Environment Board No.15, B.E. 2540 (19**



**Technical Manager**

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**E 264218**

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**Report No. : 2023-5006426 / 002-3 (Page 1 of 1)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :** [REDACTED]

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**  
Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS : Noise Level**

**MEASUREMENT DATE: April 20-22, 2023**

**SAMPLING LOCATION : บ้านบางกระดาน**

**MEASUREMENT BY** [REDACTED]

**CALIBRATION DATA : Model CR:515, Cirrus Research plc, Serial No. 88336,**  
Calibration Value Reference: 94.0 dB(A), Pre Cal. : 93.7 dB(A), Post Cal. : 93.7 dB(A)

**SOUND LEVEL METER NO. : Model CR:171B, Cirrus Research plc, Serial No. G078137**

Time	Noise Level [dB(A)]									Standard <sup>1/</sup>
	April 20, 2023			April 21, 2023			April 22, 2023			
	Leq	Lmax	L90	Leq	Lmax	L90	Leq	Lmax	L90	
00:00-01:00	45.4	64.5	39.6	44.4	67.1	40.6	42.8	66.3	36.0	
01:00-02:00	42.5	59.4	38.7	43.1	64.2	40.5	42.6	66.1	36.2	
02:00-03:00	43.4	67.6	37.0	43.7	63.6	38.8	41.3	60.6	37.2	
03:00-04:00	45.8	69.1	37.5	43.2	64.7	38.2	43.9	63.1	37.5	
04:00-05:00	45.7	63.4	40.3	45.0	65.8	40.0	48.5	71.5	40.5	
05:00-06:00	52.4	72.7	42.7	49.4	65.8	41.6	51.3	74.6	43.5	
06:00-07:00	54.9	75.3	48.2	54.4	72.7	47.3	53.6	74.0	48.9	
07:00-08:00	54.3	74.3	48.2	53.1	73.8	47.7	54.1	75.3	49.4	
08:00-09:00	53.3	71.0	46.3	53.2	72.5	48.8	51.8	69.1	46.7	
09:00-10:00	52.5	68.4	47.6	51.8	73.2	47.8	50.6	66.6	45.9	
10:00-11:00	52.0	70.2	46.9	52.7	71.0	47.4	55.7	79.0	47.3	
11:00-12:00	55.1	78.2	48.1	52.5	67.8	47.6	52.9	71.5	48.2	
12:00-13:00	51.5	69.5	47.6	51.9	69.1	47.5	52.1	67.0	47.0	
13:00-14:00	52.4	67.2	48.1	53.1	71.6	48.0	52.4	71.1	46.9	
14:00-15:00	52.8	74.6	47.4	51.5	65.7	47.9	50.9	67.5	45.3	
15:00-16:00	51.3	70.2	46.8	52.2	71.8	46.9	51.9	73.4	47.1	
16:00-17:00	52.3	72.1	46.7	51.6	66.7	46.6	52.1	70.5	47.5	
17:00-18:00	51.9	69.1	48.3	52.9	70.9	48.5	52.7	67.1	48.9	
18:00-19:00	52.5	72.9	46.1	52.3	75.7	47.6	54.4	76.1	47.2	
19:00-20:00	51.7	76.8	44.2	55.2	80.4	43.5	49.3	68.2	43.7	
20:00-21:00	49.6	70.5	41.2	48.4	66.1	41.0	47.7	65.9	41.3	
21:00-22:00	48.9	71.0	40.7	55.7	86.1	40.6	48.5	71.3	39.9	
22:00-23:00	44.5	64.4	40.6	46.5	71.4	38.0	44.7	62.3	38.1	
23:00-00:00	45.1	64.1	40.5	44.3	62.4	37.1	43.8	64.1	38.2	
Leq 24 hrs	51.4	-	-	51.6	-	-	51.1	-	-	≤ 70
Ldn	56.0	-	-	55.5	-	-	55.3	-	-	-
Lmax	-	78.2	-	-	86.1	-	-	79.0	-	< 115

**Source :** <sup>1/</sup> Notification of the National Environment Board No.15, B.E. 2540 (1997)

Technical Manager

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ความสั่นสะเทือน

**Report No. : 2023-5006426 / 003-1 (Page 1 of 2)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Vibration**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : ขอบสนามบินตำแหน่งที่เครื่องบิน**

**SAMPLING BY**

แต่ะพื้นที่ทางวิ่งขณะบินลง (UTM 48 P 208033 E, 1358171 N)

Date	Time	Transverse			Vertical			Longitudinal		
		PPV (mm/s)	Frequency (Hz)	PD (mm)	PPV (mm/s)	Frequency (Hz)	PD (mm)	PPV (mm/s)	Frequency (Hz)	PD (mm)
April 20, 2023	-	<0.254	N/A	N/A	<0.254	N/A	N/A	<0.254	N/A	N/A
April 21, 2023	-	<0.254	N/A	N/A	<0.254	N/A	N/A	<0.254	N/A	N/A
April 22, 2023	-	<0.254	N/A	N/A	<0.254	N/A	N/A	<0.254	N/A	N/A
<b>Standard<sup>1/</sup></b>	-	-	-	-	-	-	-	-	-	-

**Remarks :** - N/A = Not Applicable  
- PPV = Peak Particle Velocity  
- PD = Peak Displacement

**Source :** <sup>1/</sup> Notification of the National Environmental Board. No. 37, 2553 (B.E. 2010).

Technical Manager

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**Report No. : 2023-5006426 / 003-1 (Page 2 of 2)**

**Issued date : June 6, 2023**

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

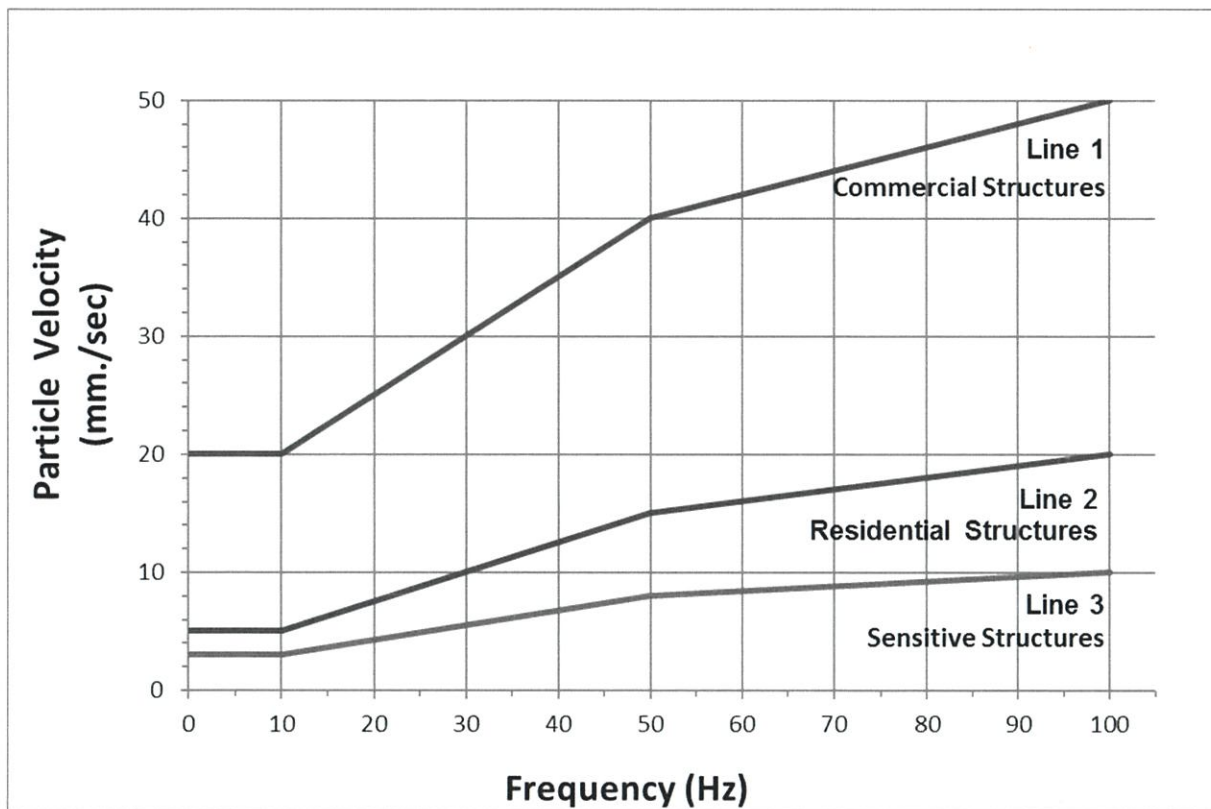
**SAMPLE DESIGNATED AS : Vibration**

**SAMPLING DATE : April 20-22, 2023**

**SAMPLING LOCATION : ขอบสนามบินตำแหน่งที่เครื่องบิน**

**SAMPLING BY**

และพื้นที่ทางวิ่งขณะบินลง (UTM 48 P 208033 E, 1358171 N)



หมายเหตุ : - เส้นที่ 1 = อาคารที่ใช้หรือออกแบบเพื่อใช้ในทางอุตสาหกรรมและพาณิชย์กรรม

- เส้นที่ 2 = อาคารที่พักอาศัยหรือออกแบบเพื่อใช้ในการอยู่อาศัย

- เส้นที่ 3 = โครงสร้างอาคารที่สามารถรับแรงสั่นสะเทือนได้น้อย

- สำหรับผลการตรวจวัดแรงสั่นสะเทือนระหว่างวันที่ 20-22 เมษายน 2566 ไม่พบเหตุการณ์ (PPV < 0.254 mm/s)

ที่มา : - ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ เรื่อง กำหนดมาตรฐานความสั่นสะเทือนเพื่อป้องกันผลกระทบต่ออาคาร พ.ศ. 2553 ประกาศ ณ วันที่ 26 เมษายน 2553  
ตีพิมพ์ในราชกิจจานุเบกษา ฉบับที่ 37 เล่มที่ 127 ตอนพิเศษ 69 ง วันที่ 2 มิถุนายน พ.ศ. 2553

- มาตรฐานระดับแรงสั่นสะเทือนสำหรับอาคารที่ไวต่อผลกระทบตามมาตรฐานประเทศ



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**Technical Manager**

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**E 264221**

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คุณภาพน้ำผิวดิน

**Report No. : 2023-5006426 / 007-1 (Page 1 of 1)** Issued date: July 10, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Surface Water Quality Analysis  
**SAMPLING LOCATION :** ห้วยวังปลาต้นน้ำก่อนผ่านพื้นที่โครงการ  
 (UTM 48P 0208445E, 1358318N)  
 Trat Airport, Trat Province  
**LABORATORY NAME :** SGS (Thailand) Limited

**SAMPLING DATE :** June 20, 2023  
**SAMPLING TIME :** 10:14 hr.  
**SAMPLING BY :** [REDACTED]

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>
Temperature	°C	APHA, 2550 B	27.9	-
pH	-	APHA, 4500-H <sup>+</sup> B	7.0	5.0-9.0
Turbidity	NTU	APHA, 2130 B	2.2	-
Dissolved Oxygen (DO)	mg/l	APHA, 4500-O C	7.3	Not less than 4.0
Biochemical Oxygen Demand (BOD)	mg/l	APHA, 5210 B	3	Not more than 2.0
Suspended Solids (SS)	mg/l	APHA, 2540 D	4.1	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	11	-
Chloride (Cl)	mg/l	APHA, 4500-Cl D	3	-
Nitrate (as N)	mg/l	APHA, 4500-NO <sub>3</sub> E	0.454	Not more than 5.0
Total Coliform Bacteria	MPN/100ml	APHA, 9221 B	1,300	Not more than 20,000
Fecal Coliform Bacteria	MPN/100ml	APHA, 9221 E	110	Not more than 4,000

**Remark :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Standard :** <sup>1/</sup> Notification of the National Environment Board No. 8, B.E. 2537 (1994), which was issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) dated January 20, B.E. 2537 (1994) Class 3 Moderately clean fresh surface water resources use for:  
 (1) Consumption, but the water should be treated before use.  
 (2) Agriculture.



Technical Manager

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E 264228

**Report No. : 2023-5006426 / 007-2 (Page 1 of 1)** Issued date: July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Surface Water Quality Analysis  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)  
 (UTM 48P 02090322E, 1358710N)  
 Trat Airport, Trat Province  
**LABORATORY NAME** : SGS (Thailand) Limited  
**SAMPLING DATE** : June 20, 2023  
**SAMPLING TIME** : 10:47 hr.  
**SAMPLING BY** :

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>
Temperature	°C	APHA, 2550 B	27.7	-
pH	-	APHA, 4500-H <sup>+</sup> B	6.9	5.0-9.0
Turbidity	NTU	APHA, 2130 B	4.0	-
Dissolved Oxygen (DO)	mg/l	APHA, 4500-O C	7.5	Not less than 4.0
Biochemical Oxygen Demand (BOD)	mg/l	APHA, 5210 B	0.5	Not more than 2.0
Suspended Solids (SS)	mg/l	APHA, 2540 D	2.6	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	8	-
Chloride (Cl)	mg/l	APHA, 4500-Cl D	3	-
Nitrate (as N)	mg/l	APHA, 4500-NO <sub>3</sub> E	0.389	Not more than 5.0
Total Coliform Bacteria	MPN/100ml	APHA, 9221 B	2,400	Not more than 20,000
Fecal Coliform Bacteria	MPN/100ml	APHA, 9221 E	170	Not more than 4,000

**Remark** : - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Standard** : <sup>1/</sup> Notification of the National Environment Board No. 8, B.E. 2537 (1994), which was issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) dated January 20, B.E. 2537 (1994) Class 3 Moderately clean fresh surface water resources use for:  
 (1) Consumption, but the water should be treated before use.  
 (2) Agriculture.



Technical Manager

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**Report No. : 2023-5006426 / 007-3 (Page 1 of 1)** Issued date: July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Surface Water Quality Analysis  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)  
 (UTM 48P 0208718E, 1359065N)  
 Trat Airport, Trat Province  
**LABORATORY NAME** : SGS (Thailand) Limited  
**SAMPLING DATE** : June 20, 2023  
**SAMPLING TIME** : 11:41 hr  
**SAMPLING BY** :

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>
Temperature	°C	APHA, 2550 B	28.2	-
pH	-	APHA, 4500-H <sup>+</sup> B	6.5	5.0-9.0
Turbidity	NTU	APHA, 2130 B	11	-
Dissolved Oxygen (DO)	mg/l	APHA, 4500-O C	6.7	Not less than 4.0
Biochemical Oxygen Demand (BOD)	mg/l	APHA, 5210 B	4	Not more than 2.0
Suspended Solids (SS)	mg/l	APHA, 2540 D	13	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	9	-
Chloride (Cl)	mg/l	APHA, 4500-Cl D	4	-
Nitrate (as N)	mg/l	APHA, 4500-NO <sub>3</sub> E	0.137	Not more than 5.0
Total Coliform Bacteria	MPN/100ml	APHA, 9221 B	700	Not more than 20,000
Fecal Coliform Bacteria	MPN/100ml	APHA, 9221 E	94	Not more than 4,000

**Remark** : - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Standard** : <sup>1/</sup> Notification of the National Environment Board No. 8, B.E. 2537 (1994), which was issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) dated January 20, B.E. 2537 (1994) Class 3 Moderately clean fresh surface water resources use for:  
 (1) Consumption, but the water should be treated before use.  
 (2) Agriculture.



Technical Manager



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E 264230

**Report No. : 2023-5006426 / 007-4 (Page 1 of 1)** Issued date: July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Surface Water Quality Analysis  
**SAMPLING LOCATION** : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)  
 (UTM 48P 0207854E, 1357801N)  
 Trat Airport, Trat Province  
**LABORATORY NAME** : SGS (Thailand) Limited  
**SAMPLING DATE** : June 20, 2023  
**SAMPLING TIME** : 09:12 hr.  
**SAMPLING BY** :

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>
Temperature	°C	APHA, 2550 B	27.8	-
pH	-	APHA, 4500-H <sup>+</sup> B	6.9	5.0-9.0
Turbidity	NTU	APHA, 2130 B	7.2	-
Dissolved Oxygen (DO)	mg/l	APHA, 4500-O C	7.8	Not less than 4.0
Biochemical Oxygen Demand (BOD)	mg/l	APHA, 5210 B	1.7	Not more than 2.0
Suspended Solids (SS)	mg/l	APHA, 2540 D	4.3	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	8	-
Chloride (Cl)	mg/l	APHA, 4500-Cl D	5	-
Nitrate (as N)	mg/l	APHA, 4500-NO <sub>3</sub> E	0.042	Not more than 5.0
Total Coliform Bacteria	MPN/100ml	APHA, 9221 B	260	Not more than 20,000
Fecal Coliform Bacteria	MPN/100ml	APHA, 9221 E	130	Not more than 4,000

**Remark** : - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Standard** : <sup>1/</sup> Notification of the National Environment Board No. 8, B.E. 2537 (1994), which was issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) dated January 20, B.E. 2537 (1994) Class 3 Moderately clean fresh surface water resources use for:  
 (1) Consumption, but the water should be treated before use.  
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Technical Manager



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E 264231



**Report No. : 2023-5006426 / 007-5 (Page 1 of 1)** Issued date: July 10, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail

## Analysis Report

**SAMPLE DESIGNATED AS :** Surface Water Quality Analysis  
**SAMPLING LOCATION :** ห้วยชุมแสง (ในจุดหลังผ่านพื้นที่โครงการ)  
 (UTM 48P 0207659E, 1357930N)  
 Trat Airport, Trat Province  
**LABORATORY NAME :** SGS (Thailand) Limited  
**SAMPLING DATE :** June 20, 2023  
**SAMPLING TIME :** 13:55 hr.  
**SAMPLING BY :**

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>
Temperature	°C	APHA, 2550 B	30.3	-
pH	-	APHA, 4500-H <sup>+</sup> B	7.2	5.0-9.0
Turbidity	NTU	APHA, 2130 B	11	-
Dissolved Oxygen (DO)	mg/l	APHA, 4500-O C	5.8	Not less than 4.0
Biochemical Oxygen Demand (BOD)	mg/l	APHA, 5210 B	4	Not more than 2.0
Suspended Solids (SS)	mg/l	APHA, 2540 D	6.4	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	7	-
Chloride (Cl)	mg/l	APHA, 4500-Cl D	3	-
Nitrate (as N)	mg/l	APHA, 4500-NO <sub>3</sub> E	0.026	Not more than 5.0
Total Coliform Bacteria	MPN/100ml	APHA, 9221 B	1,300	Not more than 20,000
Fecal Coliform Bacteria	MPN/100ml	APHA, 9221 E	70	Not more than 4,000

**Remark :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Standard :** <sup>1/</sup> Notification of the National Environment Board No. 8, B.E. 2537 (1994), which was issued under the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992) dated January 20, B.E. 2537 (1994) Class 3 Moderately clean fresh surface water resources use for:  
 (1) Consumption, but the water should be treated before use.  
 (2) Agriculture.



Technical Manager



TY/OJ/BS/BS

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E 264232



คุณภาพน้ำใต้ดิน

**Report No. : 2023-5006426 / 004-1 (Page 1 of 1)**
**Issued date :** June 6, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)

**CONTACT :** K

**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Groundwater Quality Analysis

**SAMPLING DATE :** April 21, 2023

**SAMPLING LOCATION :** บ่อบาดาลโรงกรองน้ำดิบ  
(UTM 48P 208528E, 1358811N)  
Trat Airport, Trat Province

**SAMPLING TIME :** 10:33 hr.

**SAMPLING BY**
**LABORATORY NAME :** SGS (Thailand) Limited

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>	
				Suitable Value	Maximum Allowable
pH	-	APHA, 4500-H <sup>+</sup> B	6.9	7.0-8.5	6.5-9.2
Color	Pt.Co	APHA, 2120 C	Less than 1	5	15
Turbidity	NTU	APHA, 2130 B	1.6	5	20
Suspended Solids (SS)	mg/l	APHA, 2540 D	3.8	-	-
Conductivity	µs/cm	APHA, 2510 B	307	-	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	131	Not more than 300	500
Chloride (Cl)	mg/l	APHA, 4500-Cl D	4	Not more than 250	600
Total Kjeldahl Nitrogen (TKN)	mg/l	APHA, 4500 N <sub>org</sub> B	Less than 1	-	-
Sulfate (SO <sub>4</sub> )	mg/l	APHA, 4500-SO <sub>4</sub> E	3	Not more than 200	250
Nitrate (NO <sub>3</sub> )	mg/l	APHA, 4110 B	0.009	Not more than 45	45
Iron (Fe)	mg/l	APHA, 3125 B	0.922	Not more than 0.5	1.0
Total Coliform Bacteria	MPN/100 ml	APHA, 9221 B	3.6	Less than 2.2	-
Fecal Coliform Bacteria	MPN/100 ml	APHA, 9221 E	Less than 1.1	-	-

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

- The groundwater from this source will be improved the quality before using in the airport.

**Source :** <sup>1/</sup> Notification of the Ministry of Natural Resources and Environment, B.E. 2551 (2008), published in the Royal Government Gazette, Vol. 125, Special Part 85D, dated May 21, B.E. 2551 (2008).


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Technical Manager

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**Report No. : 2023-5006426 / 004-2 (Page 1 of 1)**
**Issued date :** June 6, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)

**CONTACT :**
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Groundwater Quality Analysis

**SAMPLING DATE :** April 21, 2023

**SAMPLING LOCATION :** บ้านจุ่มแสง

**SAMPLING TIME :** 12:11 hr.

(UTM 48P 207420E, 1359494N)

Trat Airport, Trat Province

**SAMPLING BY**
**LABORATORY NAME :** SGS (Thailand) Limited

Parameter	Unit	Method	Analytical Value	Standard <sup>1/</sup>	
				Suitable Value	Maximum Allowable
pH	-	APHA, 4500-H <sup>+</sup> B	6.5	7.0-8.5	6.5-9.2
Color	Pt.Co	APHA, 2120 C	Less than 1	5	15
Turbidity	NTU	APHA, 2130 B	5.6	5	20
Suspended Solids (SS)	mg/l	APHA, 2540 D	Less than 2.5	-	-
Conductivity	µs/cm	APHA, 2510 B	157	-	-
Total Hardness (as CaCO <sub>3</sub> )	mg/l	APHA, 2340 C	65	Not more than 300	500
Chloride (Cl)	mg/l	APHA, 4500-Cl D	3	Not more than 250	600
Total Kjeldahl Nitrogen (TKN)	mg/l	APHA, 4500 N <sub>org</sub> B	1.19	-	-
Sulfate (SO <sub>4</sub> )	mg/l	APHA, 4500-SO <sub>4</sub> E	5	Not more than 200	250
Nitrate (NO <sub>3</sub> )	mg/l	APHA, 4110 B	Less than 0.005	Not more than 45	45
Iron (Fe)	mg/l	APHA, 3125 B	1.254	Not more than 0.5	1.0
Total Coliform Bacteria	MPN/100 ml	APHA, 9221 B	3.6	Less than 2.2	-
Fecal Coliform Bacteria	MPN/100 ml	APHA, 9221 E	Less than 1.1	-	-

**Remark :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

**Source :** <sup>1/</sup> Notification of the Ministry of Natural Resources and Environment, B.E. 2551 (2008), published in the Royal Government Gazette, Vol. 125, Special Part 85D, dated May 21, B.E. 2551 (2008).

  
Technical Manager

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เพลงก็ตอนพีช

**Report No. : 2023-5006426 / 008-1 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**
**CONTACT :**
**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**
**SAMPLING DATE : June 20, 2023**
**SAMPLING LOCATION : ห้วยวังปลาต้นน้ำก่อนผ่านพื้นที่โครงการ**
**SAMPLING TIME : 10:14 hr.**
**COORDINATE : UTM 48P 0208445E, 1358318N**
**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Cyanophyta</b>	
<b>Class Cyanophyceae (Blue - Green Algae)</b>	
<b>Order Chroococcales</b>	
<b>Family Chroococcaceae</b>	
<i>Chroococcus minutus</i>	3,652
<i>Merismopedia convoluta</i>	36,887
<i>Microcystis aeruginosa</i>	30,414
<b>Order Nostocales</b>	
<b>Family Oscillatoriaceae</b>	
<i>Oscillatoria princeps</i>	54,639
<i>Oscillatoria limnetica</i>	22,748
<b>Family Nostocaceae</b>	
<i>Anabaena affinis</i>	13,908
<b>Division Chlorophyta</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Botryococcaceae</b>	
<i>Botryococcus braunii</i>	15,238
<b>Family Oocystaceae</b>	
<i>Dictyosphaerium ehrenbergianum</i>	48,073
<i>Oocystis elliptica</i>	46,298
<i>Tetraedron caudatum</i>	26,517
<b>Family Scenedesmaceae</b>	
<i>Kirchneriella contorta</i>	56,300
<b>Family Hydrodictyaceae</b>	
<i>Pediastrum duplex</i>	14,197
<i>P. simplex</i>	28,897

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**Report No. : 2023-5006426 / 008-1 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยวังปลาต้นน้ำก่อนผ่านพื้นที่โครงการ**

**SAMPLING TIME : 10:14 hr.**

**COORDINATE : UTM 48P 0208445E, 1358318N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Coelastraceae</b>	
<i>Coelastrum astroideum</i>	56,270
<i>C.cambricum</i>	44,453
<i>C.microporum</i>	10,924
<b>Order Oedogoniales</b>	
<b>Family Oedogoniaceae</b>	
<i>Oedogonium sp.</i>	23,055
<b>Order Zygnematales</b>	
<b>Family Zygnemataceae</b>	
<i>Mougeotia scalaris</i>	18,638
<b>Family Desmidiaceae</b>	
<i>Closterium acerosum</i>	31,241
<i>Staurastrum tetracerum</i>	27,371
<b>Class Euglenophyceae (Euglenoids)</b>	
<b>Order Euglenales</b>	
<b>Family Eugrenaceae</b>	
<i>Eugrena acus</i>	27,826
<i>Phacus angulatus</i>	18,895
<i>Trachelomonas amata</i>	19,515
<i>T.hispida</i>	-
<i>T.ovalis</i>	7,361

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**Report No. : 2023-5006426 / 008-1 (Page 3 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยวังปลาต้นน้ำก่อนผ่านพื้นที่โครงการ**

**SAMPLING TIME : 10:14 hr.**

**COORDINATE : UTM 48P 0208445E, 1358318N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Bacillariophyceae (Diatoms)</b>	
<b>Order Biddulphiales</b>	
<b>Family Thalassiosiraceae</b>	
<i>Cyclotella meneghiniana</i>	22,312
<b>Family Aulacoseiraceae</b>	
<i>Aulacoseira granulate</i>	12,117
<b>Order Bacillariales (Pennate diatoms)</b>	
<b>Suborder Fragilarilneae</b>	
<b>Family Fragilariaceae</b>	
<i>Fragilaria sp.</i>	49,873
<b>Suborder Bacillaiinaeae</b>	
<b>Family Achnanthaceae</b>	
<i>Achnanthes sp.</i>	3,244
<b>Family Cymbellaceae</b>	
<i>Cymbella tumida</i>	5,684
<i>Encyonema sp.</i>	11,370
<b>Family Naviculaceae</b>	
<i>Gyrosigma spencerii</i>	17,554
<i>Navicula sculpta</i>	2,918
<b>Family Bacillariaceae</b>	
<i>Nitzschia sp.</i>	8,367
<b>Family Surirellaceae</b>	
<i>Surirella angusta</i>	16,742
<i>Stenopterobia elegans</i>	15,830

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**Report No. : 2023-5006426 / 008-1 (Page 4 of 4)**

Issued date : July 10, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Phytoplankton Identification  
**SAMPLING LOCATION :** ห้วยวังปลาต้นน้ำก่อนผ่านพื้นที่โครงการ  
**COORDINATE :** UTM 48P 0208445E, 1358318N  
**SAMPLING DATE :** June 20, 2023  
**SAMPLING TIME :** 10:14 hr.  
**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chromophyta</b>	
<b>Class Chrysophyceae</b>	
<b>Order Ochromonadales</b>	
<b>Family Dinobryaceae</b>	
<i>Dinobryon sertularia</i>	21,822
<b>Class Xanthophyceae (Yellow - green algae)</b>	
<b>Order Mischoococcales</b>	
<b>Family Scidiaceae</b>	
<i>Centrtractus belanophorus</i>	16,481
<b>Class Dinophyceae (Dinoflagellates)</b>	
<b>Order Peridiniales</b>	
<b>Family Peridiniaceae</b>	
<i>Peridinium cunningonii</i>	11,037
<b>Total Species of Phytoplankton (Species)</b>	<b>38</b>
<b>Total Density of Phytoplankton (Cell/m<sup>3</sup>)</b>	<b>898,666</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>2.70</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.43</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.94</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200F)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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Technical Manager

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**Report No. : 2023-5006426 / 008-2 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 10:47 hr.**

**COORDINATE : UTM 48P 02090322E, 1358710N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Cyanophyta</b>	
<b>Class Cyanophyceae (Blue - Green Algae)</b>	
<b>Order Chroococcales</b>	
<b>Family Chroococcaceae</b>	
<i>Chroococcus minutus</i>	30,557
<i>Merismopedia convoluta</i>	21,584
<i>Microcystis aeruginosa</i>	17,280
<b>Order Nostocales</b>	
<b>Family Oscillatoriaceae</b>	
<i>Oscillatoria princeps</i>	12,209
<i>Oscillatoria limnetica</i>	29,061
<b>Family Nostocaceae</b>	
<i>Anabaena affinis</i>	27,581
<b>Division Chlorophyta</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Botryococcaceae</b>	
<i>Botryococcus braunii</i>	14,462
<b>Family Oocystaceae</b>	
<i>Dictyosphaerium ehrenbergianum</i>	33,393
<i>Oocystis elliptica</i>	29,936
<i>Tetraedron caudatum</i>	34,325
<b>Family Scenedesmaceae</b>	
<i>Kirchneriella contorta</i>	18,894
<b>Family Hydrodictyaceae</b>	
<i>Pediastrum duplex</i>	10,756
<i>P. simplex</i>	32,393

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**Report No. : 2023-5006426 / 008-2 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 10:47 hr.**

**COORDINATE : UTM 48P 02090322E, 1358710N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Coelastraceae</b>	
<i>Coelastrum astroideum</i>	25,959
<i>C.cambricum</i>	28,901
<i>C.microporum</i>	8,266
<b>Order Oedogoniales</b>	
<b>Family Oedogoniaceae</b>	
<i>Oedogonium sp.</i>	29,130
<b>Order Zygnematales</b>	
<b>Family Zygnemataceae</b>	
<i>Mougeotia scalaris</i>	25,900
<b>Family Desmidiaceae</b>	
<i>Closterium acerosum</i>	26,002
<i>Staurastrum tetracerum</i>	13,898
<b>Class Euglenophyceae (Euglenoids)</b>	
<b>Order Euglenales</b>	
<b>Family Eugrenaceae</b>	
<i>Eugrena acus</i>	25,197
<i>Phacus angulatus</i>	30,992
<i>Trachelomonas amata</i>	26,584
<i>T.hispida</i>	9,803
<i>T.ovalis</i>	8,910

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**Report No. : 2023-5006426 / 008-2 (Page 3 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

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Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 10:47 hr.**

**COORDINATE : UTM 48P 02090322E, 1358710N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Bacillariophyceae (Diatoms)</b>	
<b>Order Biddulphiales</b>	
<b>Family Thalassiosiraceae</b>	
<i>Cyclotella meneghiniana</i>	23,921
<b>Family Aulacoseiraceae</b>	
<i>Aulacoseira granulate</i>	11,799
<b>Order Bacillariales (Pennate diatoms)</b>	
<b>Suborder Fragiariineae</b>	
<b>Family Fragilariaceae</b>	
<i>Fragilaria sp.</i>	39,327
<b>Suborder Bacillaiinaeae</b>	
<b>Family Achnantheaceae</b>	
<i>Achnanthes sp.</i>	17,399
<b>Family Cymbellaceae</b>	
<i>Cymbella tumida</i>	21,589
<i>Encyonema sp.</i>	3,254
<b>Family Naviculaceae</b>	
<i>Gyrosigma spencerii</i>	15,674
<i>Navicula sculpta</i>	10,970
<b>Family Bacillariaceae</b>	
<i>Nitzschia sp.</i>	26,080
<b>Family Surirellaceae</b>	
<i>Surirella angusta</i>	15,335
<i>Stenopterobia elegans</i>	21,339

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**Report No. : 2023-5006426 / 008-2 (Page 4 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 10:47 hr.**

**COORDINATE : UTM 48P 02090322E, 1358710N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chromophyta</b>	
<b>Class Chrysophyceae</b>	
<b>Order Ochromonadales</b>	
<b>Family Dinobryaceae</b>	
<i>Dinobryon sertularia</i>	12,929
<b>Class Xanthophyceae (Yellow - green algae)</b>	
<b>Order Mischococcales</b>	
<b>Family Scidiaceae</b>	
<i>Centritractus belanophorus</i>	25,260
<b>Class Dinophyceae (Dinoflagellates)</b>	
<b>Order Peridinales</b>	
<b>Family Peridiniaceae</b>	
<i>Peridinium cunningonii</i>	-
<b>Total Species of Phytoplankton (Species)</b>	<b>38</b>
<b>Total Density of Phytoplankton (Cell/m<sup>3</sup>)</b>	<b>816,849</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>2.72</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.55</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.98</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200F)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

TY/OJ/BS/BS



Technical Manager

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**Report No. : 2023-5006426 / 008-3 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 11:41 hr.**

**COORDINATE : UTM 48P 0208718E, 1359065N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Cyanophyta</b>	
<b>Class Cyanophyceae (Blue - Green Algae)</b>	
<b>Order Chroococcales</b>	
<b>Family Chroococcaceae</b>	
<i>Chroococcus minutus</i>	3,018
<i>Merismopedia convoluta</i>	30,485
<i>Microcystis aeruginosa</i>	25,136
<b>Order Nostocales</b>	
<b>Family Oscillatoriaceae</b>	
<i>Oscillatoria princeps</i>	45,156
<i>Oscillatoria limnetica</i>	18,800
<b>Family Nostocaceae</b>	
<i>Anabaena affinis</i>	11,494
<b>Division Chlorophyta</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Botryococcaceae</b>	
<i>Botryococcus braunii</i>	12,593
<b>Family Oocystaceae</b>	
<i>Dictyosphaerium ehrenbergianum</i>	39,730
<i>Oocystis elliptica</i>	38,263
<i>Tetraedron caudatum</i>	21,915
<b>Family Scenedesmaceae</b>	
<i>Kirchneriella contorta</i>	46,529
<b>Family Hydrodictyaceae</b>	
<i>Pediastrum duplex</i>	11,733
<i>P. simplex</i>	23,882

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**Report No. : 2023-5006426 / 008-3 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

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**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 11:41 hr.**

**COORDINATE : UTM 48P 0208718E, 1359065N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Coelastraceae</b>	
<i>Coelastrum astroideum</i>	46,504
<i>C.cambricum</i>	36,738
<i>C.microporum</i>	9,028
<b>Order Oedogoniales</b>	
<b>Family Oedogoniaceae</b>	
<i>Oedogonium sp.</i>	19,054
<b>Order Zygnematales</b>	
<b>Family Zygnemataceae</b>	
<i>Mougeotia scalaris</i>	15,982
<b>Family Desmidiaceae</b>	
<i>Closterium acerosum</i>	25,819
<i>Staurastrum tetracerum</i>	22,621
<b>Class Euglenophyceae (Euglenoids)</b>	
<b>Order Euglenales</b>	
<b>Family Eugrenaceae</b>	
<i>Eugrena acus</i>	22,997
<i>Phacus angulatus</i>	15,616
<i>Trachelomonas amata</i>	16,128
<i>T.hispida</i>	-
<i>T.ovalis</i>	6,083

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**Report No. : 2023-5006426 / 008-3 (Page 3 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

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## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 11:41 hr.**

**COORDINATE : UTM 48P 0208718E, 1359065N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Bacillariophyceae (Diatoms)</b>	
<b>Order Biddulphiales</b>	
<b>Family Thalassiosiraceae</b>	
<i>Cyclotella meneghiniana</i>	18,440
<b>Family Aulacoseiraceae</b>	
<i>Aulacoseira granulate</i>	10,014
<b>Order Bacillariales (Pennate diatoms)</b>	
<b>Suborder Fragiariineae</b>	
<b>Family Fragilariaceae</b>	
<i>Fragilaria sp.</i>	41,218
<b>Suborder Bacillaiinaeae</b>	
<b>Family Achnanthaceae</b>	
<i>Achnanthes sp.</i>	6,014
<b>Family Cymbellaceae</b>	
<i>Cymbella tumida</i>	10,119
<i>Encyonema sp.</i>	16,721
<b>Family Naviculaceae</b>	
<i>Gyrosigma spencerii</i>	25,814
<i>Navicula sculpta</i>	4,291
<b>Family Bacillariaceae</b>	
<i>Nitzschia sp.</i>	7,591
<b>Family Surirellaceae</b>	
<i>Surirella angusta</i>	22,891
<i>Stenopterobia elegans</i>	23,280

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**Report No. : 2023-5006426 / 008-3 (Page 4 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 11:41 hr.**

**COORDINATE : UTM 48P 0208718E, 1359065N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chromophyta</b>	
<b>Class Chrysophyceae</b>	
<b>Order Ochromonadales</b>	
<b>Family Dinobryaceae</b>	
<i>Dinobryon sertularia</i>	32,091
<b>Class Xanthophyceae (Yellow - green algae)</b>	
<b>Order Mischococcales</b>	
<b>Family Scidiaceae</b>	
<i>Centrtractus belanophorus</i>	4,847
<b>Class Dinophyceae (Dinoflagellates)</b>	
<b>Order Peridinales</b>	
<b>Family Peridiniaceae</b>	
<i>Peridinium cunningonii</i>	13,051
<b>Total Species of Phytoplankton (Species)</b>	<b>38</b>
<b>Total Density of Phytoplankton (Cell/m<sup>3</sup>)</b>	<b>801,684</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>2.72</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.46</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.95</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200F)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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Technical Manager

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**Report No. : 2023-5006426 / 008-4 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

**Tel. 02-265-5678 E-mail:**

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 09:12 hr.**

**COORDINATE : UTM 48P 0207854E, 1357801N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Cyanophyta</b>	
<b>Class Cyanophyceae (Blue - Green Algae)</b>	
<b>Order Chroococcales</b>	
<b>Family Chroococcaceae</b>	
<i>Chroococcus minutus</i>	35,828
<i>Merismopedia convoluta</i>	30,590
<i>Microcystis aeruginosa</i>	28,367
<b>Order Nostocales</b>	
<b>Family Oscillatoriaceae</b>	
<i>Oscillatoria princeps</i>	21,923
<i>Oscillatoria limnetica</i>	45,270
<b>Family Nostocaceae</b>	
<i>Anabaena affinis</i>	28,354
<b>Division Chlorophyta</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Botryococcaceae</b>	
<i>Botryococcus braunii</i>	19,353
<b>Family Oocystaceae</b>	
<i>Dictyosphaerium ehrenbergianum</i>	44,453
<i>Oocystis elliptica</i>	35,986
<i>Tetraedron caudatum</i>	33,663
<b>Family Scenedesmaceae</b>	
<i>Kirchneriella contorta</i>	18,810
<b>Family Hydrodictyaceae</b>	
<i>Pediastrum duplex</i>	19,846
<i>P. simplex</i>	46,377

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**Report No. : 2023-5006426 / 008-4 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 09:12 hr.**

**COORDINATE : UTM 48P 0207854E, 1357801N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Coelastraceae</b>	
<i>Coelastrum astroideum</i>	47,644
<i>C.cambricum</i>	44,008
<i>C.microporum</i>	14,125
<b>Order Oedogoniales</b>	
<b>Family Oedogoniaceae</b>	
<i>Oedogonium sp.</i>	31,039
<b>Order Zygnematales</b>	
<b>Family Zygnemataceae</b>	
<i>Mougeotia scalaris</i>	24,775
<b>Family Desmidiaceae</b>	
<i>Closterium acerosum</i>	8,494
<i>Staurastrum tetracerum</i>	14,588
<b>Class Euglenophyceae (Euglenoids)</b>	
<b>Order Euglenales</b>	
<b>Family Eugrenaceae</b>	
<i>Eugrena acus</i>	29,595
<i>Phacus angulatus</i>	16,655
<i>Trachelomonas amata</i>	22,959
<i>T.hispida</i>	20,965
<i>T.ovalis</i>	16,719

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**Report No. : 2023-5006426 / 008-4 (Page 3 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 09:12 hr.**

**COORDINATE : UTM 48P 0207854E, 1357801N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Bacillariophyceae (Diatoms)</b>	
<b>Order Biddulphiales</b>	
<b>Family Thalassiosiraceae</b>	
<i>Cyclotella meneghiniana</i>	20,129
<b>Family Aulacoseiraceae</b>	
<i>Aulacoseira granulate</i>	16,477
<b>Order Bacillariales (Pennate diatoms)</b>	
<b>Suborder Fragiariineae</b>	
<b>Family Fragilariaceae</b>	
<i>Fragilaria sp.</i>	25,217
<b>Suborder Bacillaiinaeae</b>	
<b>Family Achnanthaceae</b>	
<i>Achnanthes sp.</i>	20,161
<b>Family Cymbellaceae</b>	
<i>Cymbella tumida</i>	23,934
<i>Encyonema sp.</i>	20,876
<b>Family Naviculaceae</b>	
<i>Gyrosigma spencerii</i>	26,550
<i>Navicula sculpta</i>	6,015
<b>Family Bacillariaceae</b>	
<i>Nitzschia sp.</i>	42,133
<b>Family Surirellaceae</b>	
<i>Surirella angusta</i>	20,081
<i>Stenopterobia elegans</i>	32,752

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**Report No. : 2023-5006426 / 008-4 (Page 4 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS : Phytoplankton Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 09:12 hr.**

**COORDINATE : UTM 48P 0207854E, 1357801N**

**SAMPLING BY :**

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chromophyta</b> <b>Class Chrysophyceae</b> <b>Order Ochromonadales</b> <b>Family Dinobryaceae</b> <i>Dinobryon sertularia</i>	9,799
<b>Class Xanthophyceae (Yellow - green algae)</b> <b>Order Mischococcales</b> <b>Family Scidiaceae</b> <i>Centritractus belanophorus</i>	-
<b>Class Dinophyceae (Dinoflagellates)</b> <b>Order Peridinales</b> <b>Family Peridiniaceae</b> <i>Peridinium cunningonii</i>	-
<b>Total Species of Phytoplankton (Species)</b>	<b>37</b>
<b>Total Density of Phytoplankton (Cell/m<sup>3</sup>)</b>	<b>964,510</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>2.61</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.52</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.98</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200F)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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**Report No. : 2023-5006426 / 008-5 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :** [REDACTED]  
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS :** Phytoplankton Identification **SAMPLING DATE :** June 20, 2023  
**SAMPLING LOCATION :** ห้วยชุมแสง (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME :** 13:55 hr.  
**COORDINATE :** UTM 48P 0207659E, 1357930N **SAMPLING BY :** [REDACTED]

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Cyanophyta</b>	
<b>Class Cyanophyceae (Blue - Green Algae)</b>	
<b>Order Chroococcales</b>	
<b>Family Chroococcaceae</b>	
<i>Chroococcus minutus</i>	28,817
<i>Merismopedia convoluta</i>	33,950
<i>Microcystis aeruginosa</i>	19,000
<b>Order Nostocales</b>	
<b>Family Oscillatoriaceae</b>	
<i>Oscillatoria princeps</i>	30,268
<i>Oscillatoria limnetica</i>	52,884
<b>Family Nostocaceae</b>	
<i>Anabaena affinis</i>	24,507
<b>Division Chlorophyta</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Botryococcaceae</b>	
<i>Botryococcus braunii</i>	14,367
<b>Family Oocystaceae</b>	
<i>Dictyosphaerium ehrenbergianum</i>	71,498
<i>Oocystis elliptica</i>	29,223
<i>Tetraedron caudatum</i>	34,278
<b>Family Scenedesmaceae</b>	
<i>Kirchneriella contorta</i>	43,886
<b>Family Hydrodictyaceae</b>	
<i>Pediastrum duplex</i>	26,590
<i>P. simplex</i>	26,146

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**Report No. : 2023-5006426 / 008-5 (Page 2 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Phytoplankton Identification      **SAMPLING DATE** : June 20, 2023  
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**COORDINATE** : UTM 48P 0207659E, 1357930N      **SAMPLING BY** :

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Chlorophyceae (Green algae)</b>	
<b>Order Chlorococcales</b>	
<b>Family Coelastraceae</b>	
<i>Coelastrum astroideum</i>	90,515
<i>C.cambricum</i>	65,537
<i>C.microporum</i>	17,613
<b>Order Oedogoniales</b>	
<b>Family Oedogoniaceae</b>	
<i>Oedogonium sp.</i>	30,392
<b>Order Zygnematales</b>	
<b>Family Zygnemataceae</b>	
<i>Mougeotia scalaris</i>	39,342
<b>Family Desmidiaceae</b>	
<i>Closterium acerosum</i>	15,862
<i>Staurastrum tetracerum</i>	17,153
<b>Class Euglenophyceae (Euglenoids)</b>	
<b>Order Euglenales</b>	
<b>Family Eugrenaceae</b>	
<i>Eugrena acus</i>	33,073
<i>Phacus angulatus</i>	18,366
<i>Trachelomonas amata</i>	19,833
<i>T.hispida</i>	5,341
<i>T.ovalis</i>	3,198

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**Report No. : 2023-5006426 / 008-5 (Page 3 of 4)**

Issued date : July 10, 2023

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## Analysis Report

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**COORDINATE :** UTM 48P 0207659E, 1357930N **SAMPLING BY :** [REDACTED]

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chlorophyta (cont'd)</b>	
<b>Class Bacillariophyceae (Diatoms)</b>	
<b>Order Biddulphiales</b>	
<b>Family Thalassiosiraceae</b>	
<i>Cyclotella meneghiniana</i>	29,304
<b>Family Aulacoseiraceae</b>	
<i>Aulacoseira granulate</i>	9,136
<b>Order Bacillariales (Pennate diatoms)</b>	
<b>Suborder Fragiariineae</b>	
<b>Family Fragilariaceae</b>	
<i>Fragilaria</i> sp.	70,139
<b>Suborder Bacillaiinaeae</b>	
<b>Family Achnanthaceae</b>	
<i>Achnanthes</i> sp.	14,241
<b>Family Cymbellaceae</b>	
<i>Cymbella tumida</i>	18,941
<i>Encyonema</i> sp.	9,237
<b>Family Naviculaceae</b>	
<i>Gyrosigma spencerii</i>	30,636
<i>Navicula sculpta</i>	6,502
<b>Family Bacillariaceae</b>	
<i>Nitzschia</i> sp.	41,413
<b>Family Surirellaceae</b>	
<i>Surirella angusta</i>	24,909
<i>Stenopterobia elegans</i>	28,089

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**Report No. : 2023-5006426 / 008-5 (Page 4 of 4)**

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## Analysis Report

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**COORDINATE :** UTM 48P 0207659E, 1357930N **SAMPLING BY :** [REDACTED]

Scientific Classification	Phytoplankton (Cell/m <sup>3</sup> )
<b>Division Chromophyta</b>	
<b>Class Chrysophyceae</b>	
<b>Order Ochromonadales</b>	
<b>Family Dinobryaceae</b>	
<i>Dinobryon sertularia</i>	44,539
<b>Class Xanthophyceae (Yellow - green algae)</b>	
<b>Order Mischococcales</b>	
<b>Family Scidiaceae</b>	
<i>Centritractus belanophorus</i>	-
<b>Class Dinophyceae (Dinoflagellates)</b>	
<b>Order Peridinales</b>	
<b>Family Peridiniaceae</b>	
<i>Peridinium cunningonii</i>	-
<b>Total Species of Phytoplankton (Species)</b>	<b>37</b>
<b>Total Density of Phytoplankton (Cell/m<sup>3</sup>)</b>	<b>1,118,725</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>2.58</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.42</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.95</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200F)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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**Report No. : 2023-5006426 / 009-1 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
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 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยวังปลาตันน้ำก่อนผ่านพื้นที่โครงการ **SAMPLING TIME** : 10:14 hr.  
**COORDINATE** : UTM 48P 0208445E, 1358318N **SAMPLING BY** : [REDACTED]

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Protozoa (Protozoans)	
Subphylum Plasmodroma	
Class Sarcodina	
Subclass Rhizopoda	
Order Testacida	
Family Diffugiidae	
<i>Diffugia lobostoma</i>	18,011
<i>Diffugia lebes</i>	12,114
Family Euglyphidae	
<i>Euglypha tuberculata</i>	10,160
Subclass Actinopoda	
Order Heliozoida	
Family Actinophryidae	
<i>Actinophrys sol</i>	13,477
Subphylum Ciliophora	
Class Ciliata	
Subclass Holotricha	
Order Gymnostomatida	
Family Colepidae	
<i>Didinium nasutum</i>	12,773

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**Report No. : 2023-5006426 / 009-1 (Page 2 of 4)**

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 Tel. 02-265-5678 E-mail: [REDACTED]

## Analysis Report

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**COORDINATE :** UTM 48P 0208445E, 1358318N **SAMPLING BY :** [REDACTED]

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans) (cont'd)</b>	
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Spirotricha</b>	
<b>Order Tintinnida</b>	
<b>Family Codonellidae</b>	
<i>Tintinnopsis lohmanni</i>	16,749
<b>Subclass Peritrichia</b>	
<b>Order Peritrichida</b>	
<b>Family Vorticellidae</b>	
<i>Vorticella campanula</i>	12,361
<b>Phylum Rotifera (Rotifers)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Brachionidae</b>	
<i>Brachionus angularis</i>	7,825
<i>Keratella cochlearis</i>	5,474
<i>Trichotria tetractis</i>	8,478
<b>Family Lecanidae</b>	
<i>Lecane aculeata</i>	15,190
<b>Family Trichocercidae</b>	
<i>Trichocerca capucina</i>	16,907
<i>T.elongata</i>	10,333

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**COORDINATE** : UTM 48P 0208445E, 1358318N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Rotifera (Rotifers) (cont'd)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Asplanchnidae</b>	
<i>Asplanchna brightwelli</i>	20,197
<b>Family Gastropodidae</b>	
<i>Ascomorpha agilis</i>	8,581
<b>Family Synchaetidae</b>	
<i>Polyarthra vulgaris</i>	14,215
<i>Synchaeta stylata</i>	12,015
<b>Order Flosculariacea</b>	
<b>Family Testudinellidae</b>	
<i>Fillinia brachita</i>	11,962
<b>Phylum Arthropoda (Arthropods)</b>	
<b>Class Crustacea (Crustaceans)</b>	
<b>Subclass Branchiopoda</b>	
<b>Order Diplostraca</b>	
<b>Suborder Cladocera (Cladocerans)</b>	
<b>Family Sididae</b>	
<i>Diaphanosoma excisum</i>	19,084
<b>Family Daphnidae</b>	
<i>Ceriodaphnia cornuta</i>	21,370
<b>Family Moinidae</b>	
<i>Moina macrocopa</i>	22,964

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**COORDINATE :** UTM 48P 0208445E, 1358318N **SAMPLING BY :** [REDACTED]

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Arthropoda (Arthropods) (cont'd)	
Class Crustacea (Crustaceans)	
Subclass Branchiopoda	
Order Diplostraca	
Suborder Cladocera (Cladocerans)	
Family Bosminidae	
<i>Bosmina longirostris</i>	16,852
Family Chydoridae	
<i>Alona affinis</i>	15,590
Subclass Copepoda	
Order Calanoida	
Family Diaptomidae	
<i>Heliodiaptomus viduus</i>	17,999
<b>Total Species of Zooplankton (Species)</b>	<b>24</b>
<b>Total Density of Zooplankton (individuals/m<sup>3</sup>)</b>	<b>340,681</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>1.81</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.13</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.98</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200G)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.



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**Report No. : 2023-5006426 / 009-2 (Page 1 of 4)**

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ) **SAMPLING TIME** : 10:47 hr.  
**COORDINATE** : UTM 48P 02090322E, 1358710N **SAMPLING BY**

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans)</b>	
<b>Subphylum Plasmodroma</b>	
<b>Class Sarcodina</b>	
<b>Subclass Rhizopoda</b>	
<b>Order Testacida</b>	
<b>Family Diffugiidae</b>	
<i>Diffugia lobostoma</i>	9,635
<i>Diffugia lebes</i>	14,389
<b>Family Euglyphidae</b>	
<i>Euglypha tuberculata</i>	12,589
<b>Subclass Actinopoda</b>	
<b>Order Heliozoida</b>	
<b>Family Actinophryidae</b>	
<i>Actinophrys sol</i>	13,448
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Holotricha</b>	
<b>Order Gymnostomatida</b>	
<b>Family Colepidae</b>	
<i>Didinium nasutum</i>	10,906

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**COORDINATE** : UTM 48P 02090322E, 1358710N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Rotifera (Rotifers) (cont'd)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Asplanchnidae</b>	
<i>Asplanchna brightwelli</i>	-
<b>Family Gastropodidae</b>	
<i>Ascomorpha agilis</i>	8,013
<b>Family Synchaetidae</b>	
<i>Polyarthra vulgaris</i>	10,313
<i>Synchaeta stylata</i>	12,884
<b>Order Flosculariacea</b>	
<b>Family Testudinellidae</b>	
<i>Fillinia brachita</i>	7,018
<b>Phylum Arthropoda (Arthropods)</b>	
<b>Class Crustacea (Crustaceans)</b>	
<b>Subclass Branchiopoda</b>	
<b>Order Diplostraca</b>	
<b>Suborder Cladocera (Cladocerans)</b>	
<b>Family Sididae</b>	
<i>Diaphanosoma excisum</i>	29,246
<b>Family Daphnidae</b>	
<i>Ceriodaphnia cornuta</i>	25,597
<b>Family Moinidae</b>	
<i>Moina macrocopa</i>	10,959

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**Report No. : 2023-5006426 / 009-2 (Page 4 of 4)**

Issued date : July 10, 2023

**CLIENT :** BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT :**   
**ADDRESS :** 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS :** Zooplankton Identification **SAMPLING DATE :** June 20, 2023  
**SAMPLING LOCATION :** ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ) **SAMPLING TIME :** 10:47 hr.  
**COORDINATE :** UTM 48P 02090322E, 1358710N **SAMPLING BY :**

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Arthropoda (Arthropods) (cont'd)	
Class Crustacea (Crustaceans)	
Subclass Branchiopoda	
Order Diplostraca	
Suborder Cladocera (Cladocerans)	
Family Bosminidae	
<i>Bosmina longirostris</i>	7,486
Family Chydoridae	
<i>Alona affinis</i>	17,939
Subclass Copepoda	
Order Calanoida	
Family Diaptomidae	
<i>Heliodiaptomus viduus</i>	7,825
<b>Total Species of Zooplankton (Species)</b>	<b>22</b>
<b>Total Density of Zooplankton (individuals/m<sup>3</sup>)</b>	<b>249,009</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>1.69</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>2.97</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.96</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200G)

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index

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**Report No. : 2023-5006426 / 009-3 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 11:41 hr.  
**COORDINATE** : UTM 48P 0208718E, 1359065N **SAMPLING BY**

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Protozoa (Protozoans)	
Subphylum Plasmodroma	
Class Sarcodina	
Subclass Rhizopoda	
Order Testacida	
Family Diffugiidae	
<i>Diffugia lobostoma</i>	9,231
<i>Diffugia lebes</i>	6,840
Family Euglyphidae	
<i>Euglypha tuberculata</i>	7,489
Subclass Actinopoda	
Order Heliozoida	
Family Actinophryidae	
<i>Actinophrys sol</i>	2,261
Subphylum Ciliophora	
Class Ciliata	
Subclass Holotricha	
Order Gymnostomatida	
Family Colepidae	
<i>Didinium nasutum</i>	14,891

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**Report No. : 2023-5006426 / 009-3 (Page 2 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 11:41 hr.  
**COORDINATE** : UTM 48P 0208718E, 1359065N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans) (cont'd)</b>	
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Spirotricha</b>	
<b>Order Tintinnida</b>	
<b>Family Codonellidae</b>	
<i>Tintinnopsis lohmanni</i>	9,882
<b>Subclass Peritrichia</b>	
<b>Order Peritrichida</b>	
<b>Family Vorticellidae</b>	
<i>Vorticella campanula</i>	13,806
<b>Phylum Rotifera (Rotifers)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Brachionidae</b>	
<i>Brachionus angularis</i>	4,016
<i>Keratella cochlearis</i>	7,253
<i>Trichotria tetractis</i>	5,437
<b>Family Lecanidae</b>	
<i>Lecane aculeata</i>	-
<b>Family Trichocercidae</b>	
<i>Trichocerca capucina</i>	3,739
<i>T.elongata</i>	-

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**Report No. : 2023-5006426 / 009-3 (Page 3 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification      **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)      **SAMPLING TIME** : 11:41 hr.  
**COORDINATE** : UTM 48P 0208718E, 1359065N      **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Rotifera (Rotifers) (cont'd)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Asplanchnidae</b>	
<i>Asplanchna brightwelli</i>	6,117
<b>Family Gastropodidae</b>	
<i>Ascomorpha agilis</i>	9,373
<b>Family Synchaetidae</b>	
<i>Polyarthra vulgaris</i>	3,850
<i>Synchaeta stylata</i>	-
<b>Order Flosculariacea</b>	
<b>Family Testudinellidae</b>	
<i>Fillinia brachita</i>	5,936
<b>Phylum Arthropoda (Arthropods)</b>	
<b>Class Crustacea (Crustaceans)</b>	
<b>Subclass Branchiopoda</b>	
<b>Order Diplostraca</b>	
<b>Suborder Cladocera (Cladocerans)</b>	
<b>Family Sididae</b>	
<i>Diaphanosoma excisum</i>	43,605
<b>Family Daphnidae</b>	
<i>Ceriodaphnia cornuta</i>	11,814
<b>Family Moinidae</b>	
<i>Moina macrocopa</i>	720

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**Report No. : 2023-5006426 / 009-3 (Page 4 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 11:41 hr.  
**COORDINATE** : UTM 48P 0208718E, 1359065N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Arthropoda (Arthropods) (cont'd)	
Class Crustacea (Crustaceans)	
Subclass Branchiopoda	
Order Diplostraca	
Suborder Cladocera (Cladocerans)	
Family Bosminidae	
<i>Bosmina longirostris</i>	8,172
Family Chydoridae	
<i>Alona affinis</i>	15,474
Subclass Copepoda	
Order Calanoida	
Family Diaptomidae	
<i>Heliodiaptomus viduus</i>	7,071
<b>Total Species of Zooplankton (Species)</b>	<b>21</b>
<b>Total Density of Zooplankton (individuals/m<sup>3</sup>)</b>	<b>196,976</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>1.64</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>2.75</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.90</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200G)  
<sup>1/</sup> The species richness was calculated by using the Margalef's Index.  
<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.  
<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

Technical Manager

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**Report No. : 2023-5006426 / 009-4 (Page 1 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ) **SAMPLING TIME** : 09:12 hr.  
**COORDINATE** : UTM 48P 0207854E, 1357801N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans)</b>	
<b>Subphylum Plasmodroma</b>	
<b>Class Sarcodina</b>	
<b>Subclass Rhizopoda</b>	
<b>Order Testacida</b>	
<b>Family Diffugiidae</b>	
<i>Diffugia lobostoma</i>	9,754
<i>Diffugia lebes</i>	8,289
<b>Family Euglyphidae</b>	
<i>Euglypha tuberculata</i>	12,061
<b>Subclass Actinopoda</b>	
<b>Order Heliozoida</b>	
<b>Family Actinophryidae</b>	
<i>Actinophrys sol</i>	2,554
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Holotricha</b>	
<b>Order Gymnostomatida</b>	
<b>Family Colepidae</b>	
<i>Didinium nasutum</i>	13,297

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**Report No. : 2023-5006426 / 009-4 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยขุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ) **SAMPLING TIME** : 09:12 hr.  
**COORDINATE** : UTM 48P 0207854E, 1357801N **SAMPLING BY** [REDACTED]

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans) (cont'd)</b>	
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Spirotricha</b>	
<b>Order Tintinnida</b>	
<b>Family Codonellidae</b>	
<i>Tintinnopsis lohmanni</i>	2,524
<b>Subclass Peritrichia</b>	
<b>Order Peritrichida</b>	
<b>Family Vorticellidae</b>	
<i>Vorticella campanula</i>	22,176
<b>Phylum Rotifera (Rotifers)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Brachionidae</b>	
<i>Brachionus angularis</i>	8,605
<i>Keratella cochlearis</i>	2,402
<i>Trichotria tetractis</i>	4,263
<b>Family Lecanidae</b>	
<i>Lecane aculeata</i>	9,390
<b>Family Trichocercidae</b>	
<i>Trichocerca capucina</i>	9,929
<i>T.elongata</i>	3,141

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**Report No. : 2023-5006426 / 009-4 (Page 3 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification      **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยขุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)      **SAMPLING TIME** : 09:12 hr.  
**COORDINATE** : UTM 48P 0207854E, 1357801N      **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Rotifera (Rotifers) (cont'd)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Asplanchnidae</b>	
<i>Asplanchna brightwelli</i>	4,579
<b>Family Gastropodidae</b>	
<i>Ascomorpha agilis</i>	4,375
<b>Family Synchaetidae</b>	
<i>Polyarthra vulgaris</i>	8,453
<i>Synchaeta stylata</i>	7,591
<b>Order Flosculariacea</b>	
<b>Family Testudinellidae</b>	
<i>Fillinia brachita</i>	3,575
<b>Phylum Arthropoda (Arthropods)</b>	
<b>Class Crustacea (Crustaceans)</b>	
<b>Subclass Branchiopoda</b>	
<b>Order Diplostraca</b>	
<b>Suborder Cladocera (Cladocerans)</b>	
<b>Family Sididae</b>	
<i>Diaphanosoma excisum</i>	4,225
<b>Family Daphnidae</b>	
<i>Ceriodaphnia cornuta</i>	10,753
<b>Family Moinidae</b>	
<i>Moina macrocopa</i>	36,833

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**Report No. : 2023-5006426 / 009-4 (Page 4 of 4)**

Issued date : July 10, 2023

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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ) **SAMPLING TIME** : 09:12 hr.  
**COORDINATE** : UTM 48P 0207854E, 1357801N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Arthropoda (Arthropods) (cont'd)	
Class Crustacea (Crustaceans)	
Subclass Branchiopoda	
Order Diplostraca	
Suborder Cladocera (Cladocerans)	
Family Bosminidae	
<i>Bosmina longirostris</i>	15,430
Family Chydoridae	
<i>Alona affinis</i>	20,005
Subclass Copepoda	
Order Calanoida	
Family Diaptomidae	
<i>Heliodiaptomus viduus</i>	185,030
<b>Total Species of Zooplankton (Species)</b>	<b>24</b>
<b>Total Density of Zooplankton (individuals/m<sup>3</sup>)</b>	<b>409,234</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>1.78</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>2.26</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.71</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200G)  
<sup>1/</sup> The species richness was calculated by using the Margalef's Index.  
<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.  
<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.



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**Report No. : 2023-5006426 / 009-5 (Page 1 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
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 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยชุมแสง (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 13:55 hr.  
**COORDINATE** : UTM 48P 0207659E, 1357930N **SAMPLING BY** :

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans)</b>	
<b>Subphylum Plasmodroma</b>	
<b>Class Sarcodina</b>	
<b>Subclass Rhizopoda</b>	
<b>Order Testacida</b>	
<b>Family Diffugiidae</b>	
<i>Diffugia lobostoma</i>	30,515
<i>Diffugia lebes</i>	21,946
<b>Family Euglyphidae</b>	
<i>Euglypha tuberculata</i>	18,621
<b>Subclass Actinopoda</b>	
<b>Order Heliozoida</b>	
<b>Family Actinophryidae</b>	
<i>Actinophrys sol</i>	18,660
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Holotricha</b>	
<b>Order Gymnostomatida</b>	
<b>Family Colepidae</b>	
<i>Didinium nasutum</i>	16,960

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**Report No. : 2023-5006426 / 009-5 (Page 2 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยขุมแสง (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 13:55 hr.  
**COORDINATE** : UTM 48P 0207659E, 1357930N **SAMPLING BY**

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Protozoa (Protozoans) (cont'd)</b>	
<b>Subphylum Ciliophora</b>	
<b>Class Ciliata</b>	
<b>Subclass Spirotricha</b>	
<b>Order Tintinnida</b>	
<b>Family Codonellidae</b>	
<i>Tintinnopsis lohmanni</i>	3,157
<b>Subclass Peritrichia</b>	
<b>Order Peritrichida</b>	
<b>Family Vorticellidae</b>	
<i>Vorticella campanula</i>	18,391
<b>Phylum Rotifera (Rotifers)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Brachionidae</b>	
<i>Brachionus angularis</i>	14,384
<i>Keratella cochlearis</i>	21,626
<i>Trichotria tetractis</i>	19,061
<b>Family Lecanidae</b>	
<i>Lecane aculeata</i>	25,381
<b>Family Trichocercidae</b>	
<i>Trichocerca capucina</i>	25,776
<i>T.elongata</i>	20,241

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**Report No. : 2023-5006426 / 009-5 (Page 3 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
**CONTACT** :   
**ADDRESS** : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900  
 Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยขุมแสง (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 13:55 hr.  
**COORDINATE** : UTM 48P 0207659E, 1357930N **SAMPLING BY**

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
<b>Phylum Rotifera (Rotifers) (cont'd)</b>	
<b>Class Monogononta</b>	
<b>Order Ploima</b>	
<b>Family Asplanchnidae</b>	
<i>Asplanchna brightwelli</i>	5,973
<b>Family Gastropodidae</b>	
<i>Ascomorpha agilis</i>	12,038
<b>Family Synchaetidae</b>	
<i>Polyarthra vulgaris</i>	22,744
<i>Synchaeta stylata</i>	9,547
<b>Order Flosculariacea</b>	
<b>Family Testudinellidae</b>	
<i>Fillinia brachita</i>	21,605
<b>Phylum Arthropoda (Arthropods)</b>	
<b>Class Crustacea (Crustaceans)</b>	
<b>Subclass Branchiopoda</b>	
<b>Order Diplostraca</b>	
<b>Suborder Cladocera (Cladocerans)</b>	
<b>Family Sididae</b>	
<i>Diaphanosoma excisum</i>	30,659
<b>Family Daphnidae</b>	
<i>Ceriodaphnia cornuta</i>	20,765
<b>Family Moinidae</b>	
<i>Moina macrocopa</i>	20,921

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**Report No. : 2023-5006426 / 009-5 (Page 4 of 4)**

Issued date : July 10, 2023

**CLIENT** : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)  
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## Analysis Report

**SAMPLE DESIGNATED AS** : Zooplankton Identification **SAMPLING DATE** : June 20, 2023  
**SAMPLING LOCATION** : ห้วยขุมแสง (ในจุดหลังผ่านพื้นที่โครงการ) **SAMPLING TIME** : 13:55 hr.  
**COORDINATE** : UTM 48P 0207659E, 1357930N **SAMPLING BY** 

Scientific Classification	Zooplankton (individuals/m <sup>3</sup> )
Phylum Arthropoda (Arthropods) (cont'd)	
Class Crustacea (Crustaceans)	
Subclass Branchiopoda	
Order Diplostraca	
Suborder Cladocera (Cladocerans)	
Family Bosminidae	
<i>Bosmina longirostris</i>	45,628
Family Chydoridae	
<i>Alona affinis</i>	26,262
Subclass Copepoda	
Order Calanoida	
Family Diaptomidae	
<i>Heliodiaptomus viduus</i>	26,798
<b>Total Species of Zooplankton (Species)</b>	<b>24</b>
<b>Total Density of Zooplankton (individuals/m<sup>3</sup>)</b>	<b>497,658</b>
<b>Species Richness Index<sup>1/</sup></b>	<b>1.75</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>3.09</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.97</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF (APHA, 10200G)  
<sup>1/</sup> The species richness was calculated by using the Margalef's Index.  
<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.  
<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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**Report No. : 2023-5006426/ 010-1 (Page 1 of 1)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Benthos Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยวังปลาตันน้ำก่อนผ่านพื้นที่โครงการ**

**SAMPLING TIME : 10:14 hr.**

**COORDINATE : UTM 48P 0208445E, 1358318N**

**SAMPLING BY**

Scientific Classification	Benthos (Individuals/m <sup>2</sup> )
<b>Phylum Annelida</b> <b>Class Clitellata</b> <b>Order Oligochaeta</b> <b>Family Naididae</b> <i>Tubifex sp.</i>	30
<b>Phylum Arthropoda</b> <b>Class Insecta</b> <b>Order Diptera</b> <b>Family Chironomidae</b> <i>Chironomus sp.</i>	75
<b>Order Ephemeroptera</b> <b>Family Baetidae</b> <i>Baetis pygmaeus</i>	15
<b>Phylum Mollusca</b> <b>Class Gastropoda</b> <b>Order Caenogastropoda</b> <b>Family Thiariidae</b> <i>Melanoides Tuberculata</i>	60
<b>Total Family of Benthos (Species)</b>	<b>4</b>
<b>Total Density of Benthos (individuals/m<sup>2</sup>)</b>	<b>180</b>
<b>Richness Index<sup>1/</sup></b>	<b>0.58</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>1.24</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.89</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

Technical Manager

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**Report No. : 2023-5006426/ 010-2 (Page 1 of 1)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

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## Analysis Report

**SAMPLE DESIGNATED AS : Benthos Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 10:47 hr.**

**COORDINATE : UTM 48P 02090322E, 1358710N**

**SAMPLING BY**

Scientific Classification	Benthos (Individuals/m <sup>2</sup> )
<b>Phylum Annelida</b> <b>Class Clitellata</b> <b>Order Oligochaeta</b> <b>Family Naididae</b> <i>Tubifex sp.</i>	30
<b>Phylum Arthropoda</b> <b>Class Insecta</b> <b>Order Diptera</b> <b>Family Chironomidae</b> <i>Chironomus sp.</i>	45
<b>Order Ephemeroptera</b> <b>Family Baetidae</b> <i>Baetis pygmaeus</i>	45
<b>Phylum Mollusca</b> <b>Class Gastropoda</b> <b>Order Caenogastropoda</b> <b>Family Thiariidae</b> <i>Melanoides Tuberculata</i>	30
<b>Total Family of Benthos (Species)</b>	<b>4</b>
<b>Total Density of Benthos (individuals/m<sup>2</sup>)</b>	<b>150</b>
<b>Richness Index<sup>1/</sup></b>	<b>0.60</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>1.37</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.99</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

Technical Manager

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**Report No. : 2023-5006426 / 010-3 (Page 1 of 1)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

Tel. 02-265-5678 E-mail:

## Analysis Report

**SAMPLE DESIGNATED AS : Benthos Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยสลักหมู (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 11:41 hr.**

**COORDINATE : UTM 48P 0208718E, 1359065N**

**SAMPLING BY**

Scientific Classification	Benthos (Individuals/m <sup>2</sup> )
<b>Phylum Annelida</b> <b>Class Clitellata</b> <b>Order Oligochaeta</b> <b>Family Naididae</b> <i>Tubifex sp.</i>	75
<b>Phylum Arthropoda</b> <b>Class Insecta</b> <b>Order Diptera</b> <b>Family Chironomidae</b> <i>Chironomus sp.</i>	75
<b>Order Ephemeroptera</b> <b>Family Baetidae</b> <i>Baetis pygmaeus</i>	30
<b>Phylum Mollusca</b> <b>Class Gastropoda</b> <b>Order Caenogastropoda</b> <b>Family Thiariidae</b> <i>Melanoides Tuberculata</i>	30
<b>Total Family of Benthos (Species)</b>	<b>4</b>
<b>Total Density of Benthos (individuals/m<sup>2</sup>)</b>	<b>210</b>
<b>Richness Index<sup>1/</sup></b>	<b>0.56</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>1.29</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.93</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index

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**Report No. : 2023-5006426/ 010-4 (Page 1 of 1)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

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## Analysis Report

**SAMPLE DESIGNATED AS : Benthos Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดก่อนผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 09:12 hr.**

**COORDINATE : UTM 48P 0207854E, 1357801N**

**SAMPLING BY**

Scientific Classification	Benthos (Individuals/m <sup>2</sup> )
Phylum Annelida	
Class Clitellata	
Order Oligochaeta	
Family Naididae	
<i>Tubifex</i> sp.	75
Phylum Arthropoda	
Class Insecta	
Order Diptera	
Family Chironomidae	
<i>Chironomus</i> sp.	45
Order Ephemeroptera	
Family Baetidae	
<i>Baetis pygmaeus</i>	15
Phylum Mollusca	
Class Gastropoda	
Order Caenogastropoda	
Family Thiariidae	
<i>Melanoides Tuberculata</i>	45
<b>Total Family of Benthos (Species)</b>	<b>4</b>
<b>Total Density of Benthos (individuals/m<sup>2</sup>)</b>	<b>180</b>
<b>Richness Index<sup>1/</sup></b>	<b>0.58</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>1.27</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.91</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.



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**Report No. : 2023-5006426/ 010-5 (Page 1 of 1)**

Issued date : July 10, 2023

**CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)**

**CONTACT :**

**ADDRESS : 99 Moo 14, Vibhavadirangsit Road, Chom Phon, Chatuchak, Bangkok 10900**

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## Analysis Report

**SAMPLE DESIGNATED AS : Benthos Identification**

**SAMPLING DATE : June 20, 2023**

**SAMPLING LOCATION : ห้วยชุมแสง (ในจุดหลังผ่านพื้นที่โครงการ)**

**SAMPLING TIME : 13:55 hr.**

**COORDINATE : UTM 48P 0207659E, 1357930N**

**SAMPLING BY**

Scientific Classification	Benthos (Individuals/m <sup>2</sup> )
Phylum Annelida	
Class Clitellata	
Order Oligochaeta	
Family Naididae	
<i>Tubifex</i> sp.	75
Phylum Arthropoda	
Class Insecta	
Order Diptera	
Family Chironomidae	
<i>Chironomus</i> sp.	75
Order Ephemeroptera	
Family Baetidae	
<i>Baetis pygmaeus</i>	45
Phylum Mollusca	
Class Gastropoda	
Order Caenogastropoda	
Family Thiariidae	
<i>Melanoides Tuberculata</i>	60
<b>Total Family of Benthos (Species)</b>	<b>4</b>
<b>Total Density of Benthos (individuals/m<sup>2</sup>)</b>	<b>255</b>
<b>Richness Index<sup>1/</sup></b>	<b>0.54</b>
<b>Biodiversity Index<sup>2/</sup></b>	<b>1.37</b>
<b>Evenness Index<sup>3/</sup></b>	<b>0.99</b>

**Remarks :** - Analytical Methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.

<sup>1/</sup> The species richness was calculated by using the Margalef's Index.

<sup>2/</sup> The biodiversity index was calculated by using the Shannon-Wiener's Index.

<sup>3/</sup> The evenness index was calculated by using the Pielou's Index.

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