



BANGKOK AIRWAYS

PUBLIC COMPANY LIMITED

Fly Boutique.
Feel Unique.

Confidential

ASIA'S BOUTIQUE AIRLINE



OUTLINE

INFORMATION

- **Trat Airport**
- **Challenges to start AEMS**

IMPROVED CONTEXT

- **Problems' situation & solution**

ACHIEVED RESULTS

- **Achievement and results**
- **Benefit of AEMS**

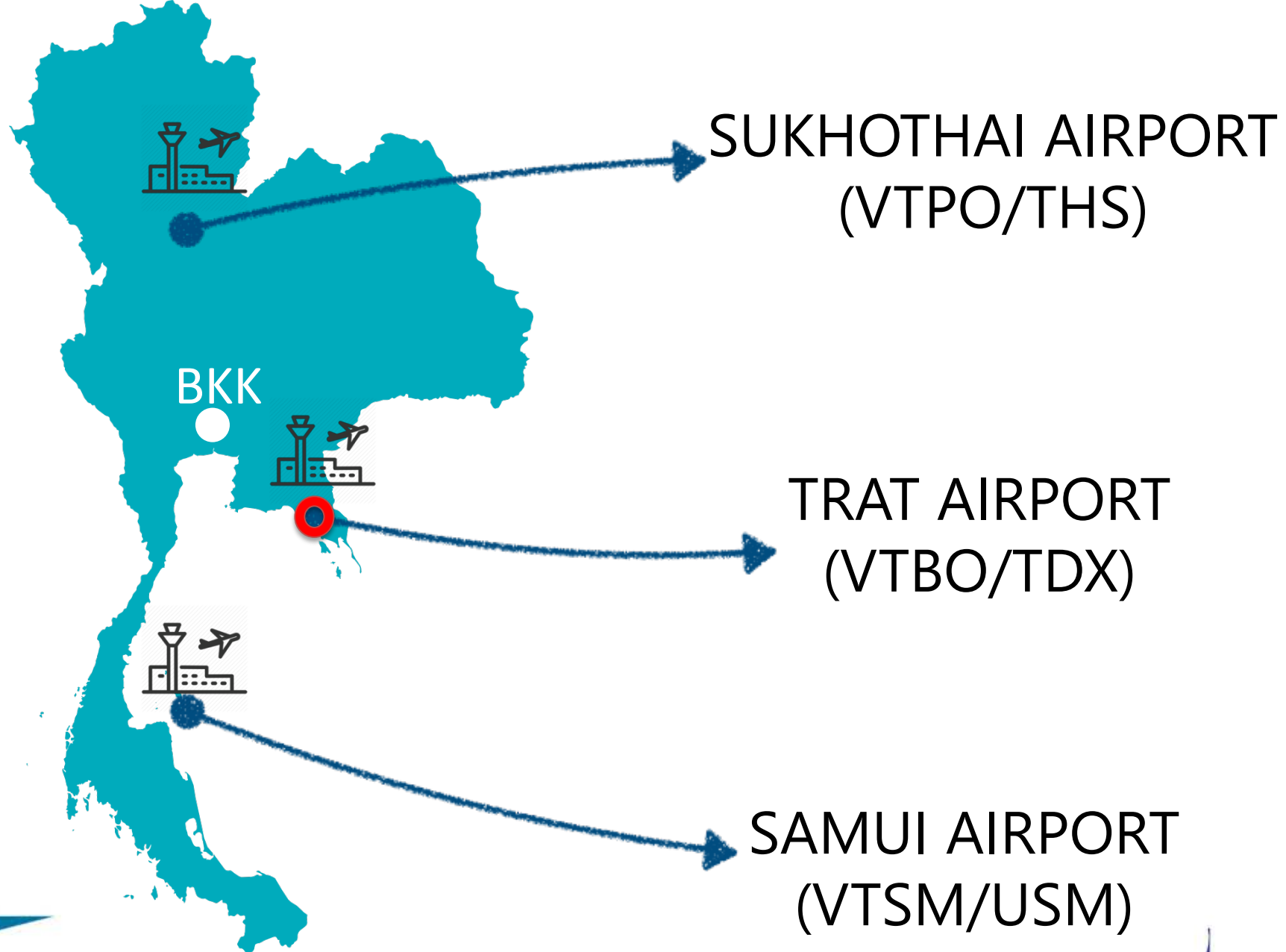


1

AIRPORT INFORMATION

- **Trat Airport**
- **Awards**
- **Challenges**

OUR AIRPORTS



TRAT AIRPORT



Total Area
474 acre



Terminal Area
680 sq/m²



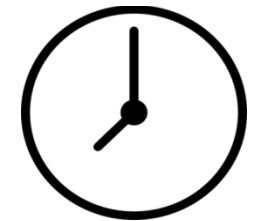
Runway Length
1,800 m



Passenger Number
101,800 (2019)



Traffic Movement
8 per Day

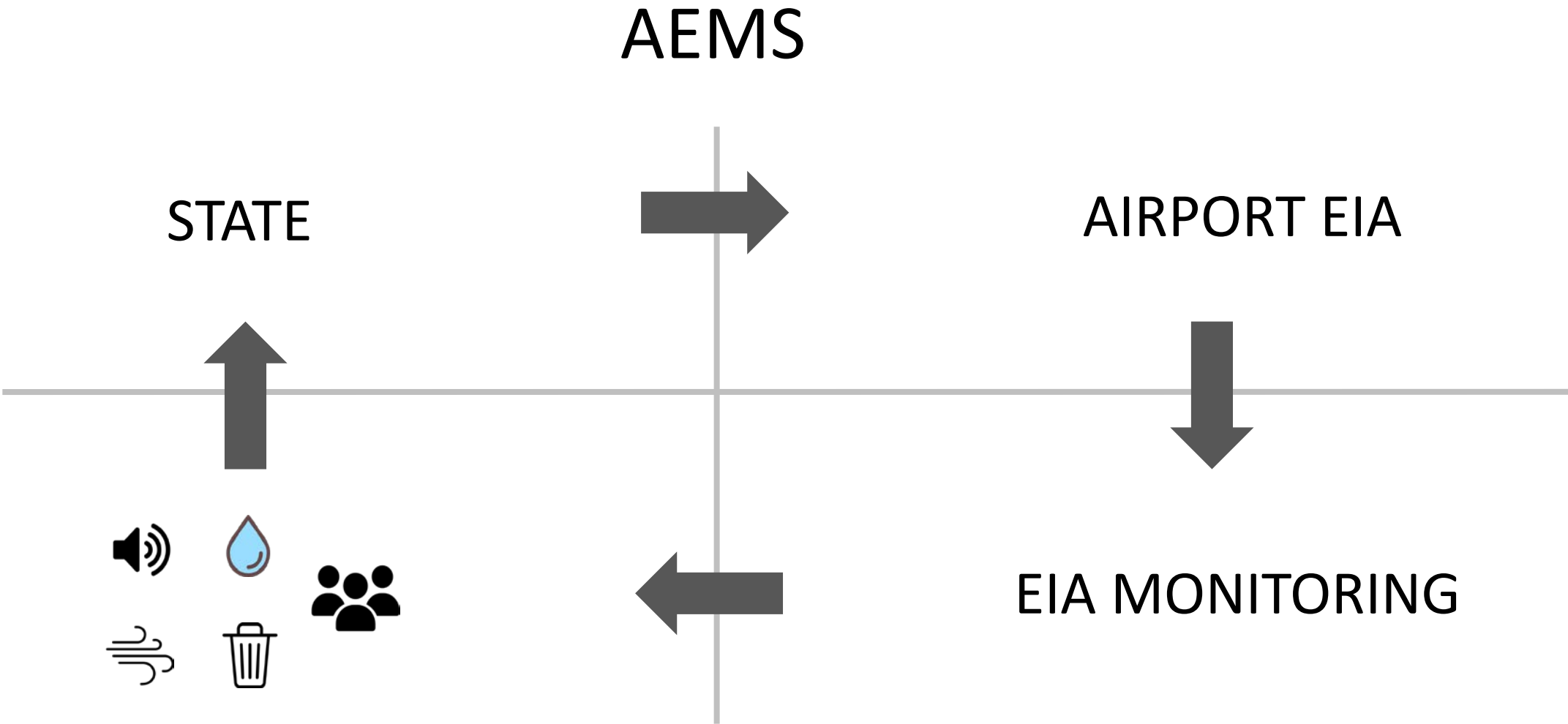


Operational Hours
6.00am - 10.00pm



- **Excellent Awards ; EIA Monitoring Awards**, Ministry of Science and Technology
- **5 stars Certificated ; Public Restroom for Tourism**, Department of Tourism

ENVIRONMENT ASSESSMENT





CHALLENGES TO START AEMS

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AIRPORT ENVIRONMENT MANAGEMENT SYSTEM



Training course and workshop
18 - 22 September 2019
at Trat Airport



Confidential



CONTENT OF AEMS TRAINING

- 1:Context of the organization and Leadership
- 2:Aspects identification and environmental risk assessment
- 3:Environmental objectives and planning
- 4:Environmental target setting and data monitoring
- 5:Operation Supports
- 6:Competency and Training/Communication program
- 7:Operation control
- 8:Emergency preparedness and response
- 9:Performance evaluation and improvement
- 10:Data monitoring and programs
- 11:Environmental aspects and risk management procedure
- 12: AEMS document and information master list

AIRPORT ENVIRONMENT MANAGEMENT SYSTEM



Auditor training course
27- 29 September 2019

CONTENT OF INTERNAL AUDIT TRAINING

1:Course Overview, Audit principle and Audit process

2:Audit Planning

3:Audit Checklist
Preparation

4:Audit
techniques to
gather evidences

5:Audit
findings and
NC statement

6:Audit report and Corrective Actions

NEGATIVE ISSUE TO START AEMS

The limitation to learn AEMS and Implementation is very short. Can not learn in every detail

Airport never have an AEMS before and also do not have an experience about environment management

Most of the participants lack of environmental knowledge that is difficult to understand the AEMS process

Staff Lack of environmental management awareness at work

The airport that had the previous problem was the wastewater system

POSITIVE ISSUE TO START AEMS

Receive cooperation from government agencies and communities

Airport is a source of stimulate the economy in Trat Province

Trat Airport is technical supported by CAAT throughout the project

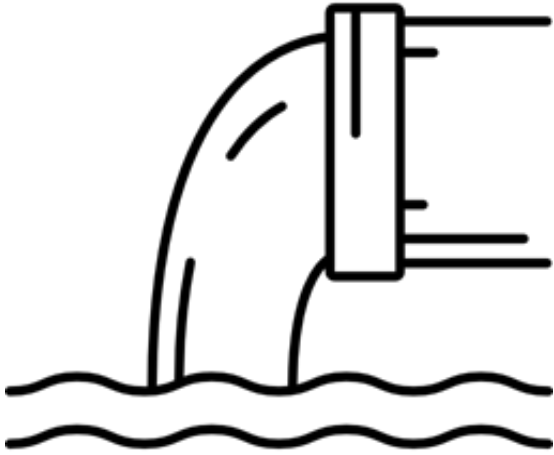
The organization is environmentally conscious. In sending supervisors and employees in each department to attend the training

2

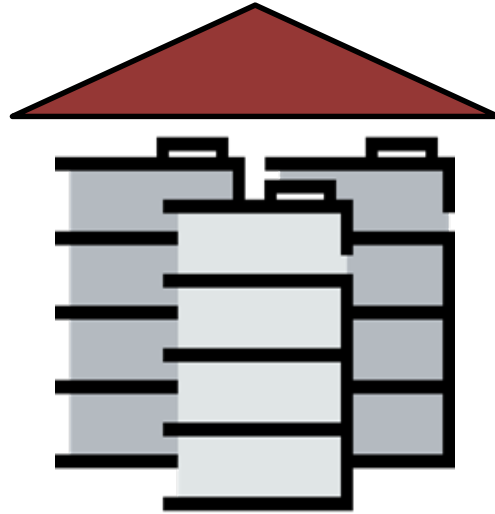
IMPROVED CONTEXT

- Problems' situation & solutions

PROBLEM SITUATION



**WATER
POLLUTION**



CHEMICAL STORAGE



FOSSIL FUEL



HAZARDOUS WASTE



WASTEWATER ANALYSIS REPORT

SGS

Report No. : 2019-00479 / 005-1 (Page 1 of 1)

Issued date : May 14, 2019

CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)
CONTACT : Khun Shinchana Patrasuwan
ADDRESS : 99 Moo 14, Vibhavadi Rangsit Road, Chom Phon, Chatuchak, Bangkok 10900
Tel. 02-265-5678 E-mail: shinchana@bangkokair.com

Analysis Report

SAMPLE DESIGNATED AS : Wastewater Quality Analysis
SAMPLING LOCATION : ปอพักน้ำทิ้งจากกระบวนการบำบัดน้ำเสียอากาศยานโดยสาย
Trat Airport, Trat Province
SAMPLING DATE : April 24, 2019
SAMPLING TIME : 12:00
SAMPLING BY : Watchararat Linjee

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	8.3	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	80	40
Suspended Solids (SS)	mg/l	7.2	50
Total Dissolved Solids (TDS)	mg/l	557	500*
Oil & Grease	mg/l	Less than 2	20
Sulphide (S)	mg/l	0.05	3.0
Total Kjeldahl Nitrogen (TKN)	mg/l	131.60	40
Settleable Solid	ml/l	Less than 0.1	0.5
Organic-Nitrogen	mg/l	5.60	15 ^{2/}
Ammonia-Nitrogen	mg/l	126.00	25

Remarks : - Analytical methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
* The value was in addition to the TDS of the water used. (TDS of Tap water sampling on April 24, 2019 was 256 mg/l)

Sources : ^{1/} Notification of the Ministry of Natural Resources and Environment "Building Effluents Standards" dated November 7, B.E. 2548 (2005) published in the Royal Government Gazette, Vol. 122 Part 125 D, dated December 29, B.E. 2548 (2005) ; Building Type C (Government offices, State enterprises offices, International agencies or company offices which have area from 5,000 m² to not greater than 10,000 m²).
^{2/} Ministerial Regulation No.51, B.E. 2541 (1998) issued under Building Control Act B.E. 2522 (1979).

Siriporn Imwilaiwan
(Siriporn Imwilaiwan)
Environmental Monitoring Manager

Thepsan Yommana
(Thepsan Yommana)
Technical Manager

TY/WM/STT/CJ



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E 195706

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Report No. : 2019-00479 / 005-2 (Page 1 of 1)

Issued date : May 14, 2019

CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)
CONTACT : Khun Shinchana Patrasuwan
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Tel. 02-265-5678 E-mail: shinchana@bangkokair.com

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Trat Airport, Trat Province
SAMPLING DATE : April 24, 2019
SAMPLING TIME : 11:50
SAMPLING BY : Watchararat Linjee

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	7.4	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	90	40
Suspended Solids (SS)	mg/l	37	50
Total Dissolved Solids (TDS)	mg/l	459	500*
Oil & Grease	mg/l	Less than 2	20
Sulphide (S)	mg/l	Less than 0.01	3.0
Total Kjeldahl Nitrogen (TKN)	mg/l	10.64	40
Settleable Solid	ml/l	Less than 0.1	0.5
Organic-Nitrogen	mg/l	7.84	15 ^{2/}
Ammonia-Nitrogen	mg/l	2.80	25

Remarks : - Analytical methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
* The value was in addition to the TDS of the water used. (TDS of Tap water sampling on April 24, 2019 was 256 mg/l)

Sources : ^{1/} Notification of the Ministry of Natural Resources and Environment "Building Effluents Standards" dated November 7, B.E. 2548 (2005) published in the Royal Government Gazette, Vol. 122 Part 125 D, dated December 29, B.E. 2548 (2005) ; Building Type C (Government offices, State enterprises offices, International agencies or company offices which have area from 5,000 m² to not greater than 10,000 m²).
^{2/} Ministerial Regulation No.51, B.E. 2541 (1998) issued under Building Control Act B.E. 2522 (1979).

Siriporn Imwilaiwan
(Siriporn Imwilaiwan)
Environmental Monitoring Manager

Thepsan Yommana
(Thepsan Yommana)
Technical Manager

TY/WM/STT/Ws



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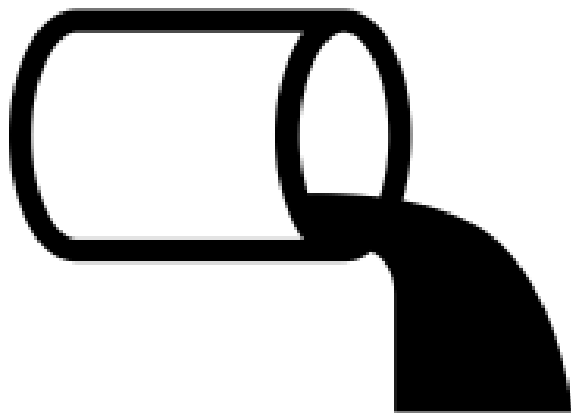
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Water Pollution at Trat

- Wastewater Treatment System



WASTEWATER ANALYSIS REPORT



SGS

Report No. : 2019-00479 / 005-3 (Page 1 of 1) Issued date : September 25, 2019

CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)
CONTACT : Khun Shinchana Patrasuwan
ADDRESS : 99 Moo 14, Vibhavadi Rangsit Road, Chom Phon, Chatuchak, Bangkok 10900
Tel. 02-265-5678 E-mail: shinchana@bangkokair.com

Analysis Report

SAMPLE DESIGNATED AS : Wastewater Quality Analysis
SAMPLING LOCATION : บ่อพักน้ำทิ้งจากระบบบำบัดน้ำเสียรูปอาคารผู้โดยสาร
Trat Airport, Trat Province
SAMPLING DATE : September 12, 2019
SAMPLING TIME : 09:00
SAMPLING BY : Chalermwut Phunikom

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	7.2	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	26	40
Suspended Solids (SS)	mg/l	11	50
Total Dissolved Solids (TDS)	mg/l	480	500*
Oil & Grease	mg/l	Less than 2	20
Sulphide (S)	mg/l	Less than 0.02	3.0
Total Kjeldahl Nitrogen (TKN)	mg/l	6.16	40
Settleable Solid	ml/l	0.4	0.5
Organic-Nitrogen	mg/l	0.0	15 ^{2/}
Ammonia-Nitrogen	mg/l	6.16	25

Remarks : - Analytical methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
* The value was in addition to the TDS of the water used. (TDS of Tap water sampling on April 24, 2019 was 256 mg/l)

Sources : ^{1/} Notification of the Ministry of Natural Resources and Environment "Building Effluents Standards" dated November 7, B.E. 2548 (2005) published in the Royal Government Gazette, Vol. 122 Part 125 D, dated December 29, B.E. 2548 (2005) ; Building Type C (Government offices, State enterprises offices, International agencies or company offices which have area from 5,000 m² to not greater than 10,000 m²).
^{2/} Ministerial Regulation No.51, B.E. 2541 (1998) issued under Building Control Act B.E. 2522 (1979).

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Environmental Monitoring Manager

Thipsan Y
(Thipsan Yommana)
Technical Manager

SGS (THAILAND) LIMITED

TY/CG/STT/Stk

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Report No. : 2019-00479 / 005-4 (Page 1 of 1) Issued date : September 25, 2019

CLIENT : BANGKOK AIRWAYS PUBLIC COMPANY LIMITED (TRAT AIRPORT)
CONTACT : Khun Shinchana Patrasuwan
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Tel. 02-265-5678 E-mail: shinchana@bangkokair.com

Analysis Report

SAMPLE DESIGNATED AS : Wastewater Quality Analysis
SAMPLING LOCATION : บ่อพักน้ำทิ้งจากระบบบำบัดน้ำเสียรูปอาคารผู้โดยสาร
Trat Airport, Trat Province
SAMPLING DATE : September 12, 2019
SAMPLING TIME : 08:45
SAMPLING BY : Chalermwut Phunikom

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	8.1	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	7	40
Suspended Solids (SS)	mg/l	3.1	50
Total Dissolved Solids (TDS)	mg/l	467	500*
Oil & Grease	mg/l	Less than 2	20
Sulphide (S)	mg/l	Less than 0.02	3.0
Total Kjeldahl Nitrogen (TKN)	mg/l	3.36	40
Settleable Solid	ml/l	0.3	0.5
Organic-Nitrogen	mg/l	0.0	15 ^{2/}
Ammonia-Nitrogen	mg/l	3.36	25

Remarks : - Analytical methods followed to Standard Methods for the Examination of Water and Wastewater, recommended by APHA-AWWA-WEF.
* The value was in addition to the TDS of the water used. (TDS of Tap water sampling on April 24, 2019 was 256 mg/l)

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Amorn 2
(Siriporn Imwilaiwan)
Environmental Monitoring Manager

Thipsan Y
(Thipsan Yommana)
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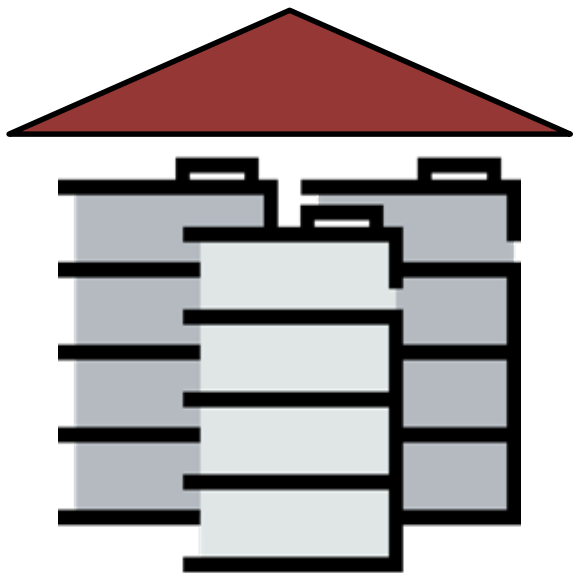
TERMINAL WASTEWATER ANALYSIS REPORT

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	7.2	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	26	40
Suspended Solids (SS)	mg/l	11	50
Total Dissolved Solids (TDS)	mg/l	480	500*
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CAFETERIA WASTEWATER ANALYSIS REPORT

Parameter	Unit	Analytical Value	Standard ^{1/}
pH	-	8.1	5.0-9.0
Biochemical Oxygen Demand (BOD)	mg/l	7	40
Suspended Solids (SS)	mg/l	3.1	50
Total Dissolved Solids (TDS)	mg/l	467	500*
Oil & Grease	mg/l	Less than 2	20
Sulphide (S)	mg/l	Less than 0.02	3.0
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Settleable Solid	ml/l	0.3	0.5
Organic-Nitrogen	mg/l	0.0	15 ^{2/}
Ammonia-Nitrogen	mg/l	3.36	25

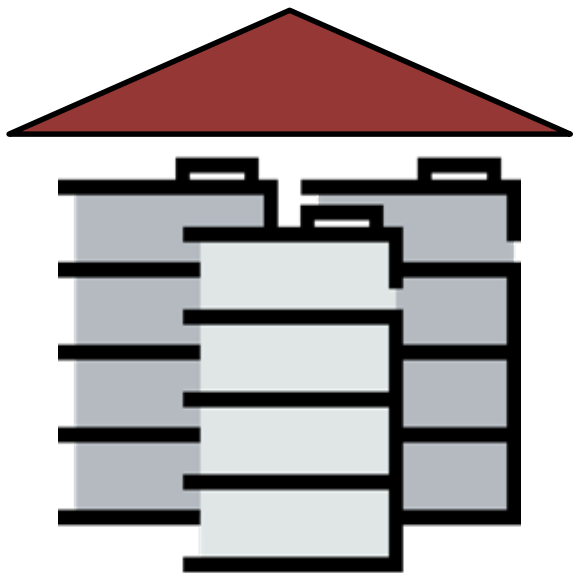


CHEMICAL STORAGE

PROBLEM

- No chemical leakage support
- No SDS sign
- Not separate chemical type





CHEMICAL STORAGE

SOLUTIONS

- Educate organization personnel
- Reconstruction chemical storage





HAZARDOUS WASTE

PROBLEM

- No Storage process
- No hazardous waste storage
- No hazardous waste management





HAZARDOUS WASTE

SOLUTIONS

- Publishing the manual
- Educate operational staff
- Reconstruction storage





FOSSIL FUEL

PROBLEM

- Use fossil fuel/Natural resources
- Air Pollution





FOSSIL FUEL

SOLUTIONS

- Increase warning signs stop engine
- Electric vehicles to transport





3

ACHIEVED RESULTS

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ASIA'S BOUTIQUE AIRLINE



ACHIEVED RESULTS OF AEMS

Increasing environmental knowledge and awareness of organization personnel

Collecting data for AEMS project analysis

AEMS implementation, for example, recently environmental issues was raised in practicing of an emergency plan

ACHIEVED RESULTS OF AEMS

Due to the implementation of AEMS, the wastewater treatment performance has been monitoring constantly

The responsible division of chemical storage has educated the operational staff and provoke the reconstruction of chemical storage building according to the standard

To complete the project and prepare for auditing from CAAT, cooperation from other organizations is still needed

BENEFIT OF AEMS



- Know the environmental impact of other aspects of airport operation
- Improved the operational and facilities of the airport to have the minimal environmental impact



THANK YOU
worathanat@bangkokair.com