
ภาคผนวก ค-3

คุณลักษณะน้ำเสียก่อนและหลังเข้าระบบบำบัดน้ำเสียส่วนกลาง



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23147878
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873691-1

Page 1 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	21.7	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	61	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	29.2	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	900	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	10.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Technical Management

N. Banngmit

Narumon Banchongkit
Supervisor
โทรศัพท์ ๖-323-๙-9445

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
โทรศัพท์ ๖-323-๙-9442

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5317-124/ EMAIL



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23147878
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873691-1

Page 2 of 2

Sampling By : Tanasit Wongsachai โทรศัพท์ ๖-323-๙-9460 , Samart Khumphlee โทรศัพท์ ๖-204-๙-7830

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banngmit

Narumon Banchongkit
Supervisor
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Approved by

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1

TESTING
No.0009

Lot ID: 23147878

Date Received : Jan 08, 2024

Date Reported : Jan 15, 2024

Report Number : 2873691-2

Page 1 of 2

Sample Number	23147878-1						
Sampled Date	Jan 08, 2024 9:33 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.30	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.004	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.36	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ก-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1

TESTING
No.0009

Lot ID: 23147878

Date Received : Jan 08, 2024

Date Reported : Jan 15, 2024

Report Number : 2873691-2

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-ก-9460 , Samart Khumphlee ทะเบียนเลขที่ ว-204-ก-7830

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Savitree Naisangiam
Manager

ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 23147878
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873691-3

Page 1 of 1

Sample Number	23147878-1						
Sampled Date	Jan 08, 2024 9:33 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jan 08, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	330000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	7.34	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1666	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	<0.5	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Samart Khumphlee

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Approved by

Siriluk P.

Siriluk Puengpang
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23147878
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873691-4

Page 1 of 1

Sample Number	23147878-1						
Sampled Date	Jan 08, 2024 9:33 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	0.1	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-ก-9460 , Samart Khumphlee ทะเบียนเลขที่ ว-204-ก-7830

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Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor

ทะเบียนเลขที่ ว-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ก-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING
No.0042
Lot ID: 23147891
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873699-1

Page 1 of 2

Sample Number	23147891-1						
Sampled Date	Jan 08, 2024 9:48 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 08, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	28.8	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	764	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	3.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	13	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banachkit

Narumon Banachongkit
Supervisor
ทะเบียนเลขที่ ร-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-ก-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING
No.0042
Lot ID: 23147891
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873699-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ร-323-ก-9460 , Samart Khumphlee ทะเบียนเลขที่ ร-204-ก-7830

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ทะเบียนเลขที่ ร-323-ก-9445

Approved by

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ทะเบียนเลขที่ ร-323-ก-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location: WHA CIE 1



TESTING
No.0009
Lot ID: 23147891
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873699-2

Page 1 of 2

Sample Number	23147891-1						
Sampled Date	Jan 08, 2024 9:48 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.27	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0008	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Naisangiam
Manager
ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ก-6111

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Project Location: WHA CIE 1



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Sampled Date	Jan 08, 2024 9:48 AM						
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Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.27	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
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Technical Management

Sawitree N.

Sawitree Naisangiam
Manager
ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ก-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 23147891
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873699-3

Page 1 of 1

Sample Number	23147891-1						
Sampled Date	Jan 08, 2024 9:48 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 08, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	1.53	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1347	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	0.9	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Samart Khumphlee

Remark :
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Approved by

Siriluk P.
Siriluk Puengpang
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 23147891
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873699-4

Page 1 of 1

Sample Number	23147891-1						
Sampled Date	Jan 08, 2024 9:48 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Samart Khumphlee ทะเบียนเลขที่ ๖-204-๖-7830

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Technical Management

N. Banchongkit
Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :
Project Name :
Project Location: WHA CIE 1



TESTING
No.0009
Lot ID: 23147887
Date Received : Jan 08, 2024
Date Reported : Jan 15, 2024
Report Number : 2873738-1

Page 1 of 1

Sample Number	23147887-1
Sampled Date	Jan 08, 2024 9:48 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Jan 09, 2024
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, some solid, and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	1700.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Samart Khumplhie

Remark :
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Approved by

Suwannee Chuamkeaw
Section Head

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Thailand 20230

P/O :
Project Name :
Project Location: WHA CIE 1



TESTING
No.0042
Lot ID: 23147884
Date Received : Jan 19, 2024
Date Reported : Feb 12, 2024
Report Number : 2908654-1

Page 1 of 1

Sample Number	23147884-1
Sampled Date	Jan 19, 2024 3:00 PM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Jan 19, 2024
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	5.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.2	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1630	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	19.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	68	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Note : This Analysis test report is reissued to supersede report No.2873725-1, Date Reported : Jan 26, 2024 due to revise analytical information.

Sampling By : Chainusorn Lertnanthakunchai ทะเบียนเลขที่ ๖-323-๖-9461, Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 23147884
Date Received : Jan 19, 2024
Date Reported : Feb 12, 2024
Report Number : 2908654-2

Page 1 of 2

Sample Number	23147884-1					
Sampled Date	Jan 19, 2024 3:00 PM					
Sample Description	Influent					
Location	WHA CIE1 : Pumping Station					
Date Analysis Commenced	Jan 20, 2024					
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Physical Property	Yellow, a lot of odour, solid and some turbid					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F
Copper	mg/L	0.0003	0.0005	0.83	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F
Mercury *	mg/L	0.0001	0.0005	0.0008	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F

Technical Management

Sauwatee N.

Sauwatee Noisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-6111

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Analysis / Test Report

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Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 23147884
Date Received : Jan 19, 2024
Date Reported : Feb 12, 2024
Report Number : 2908654-2

Page 2 of 2

Sample Number	23147884-1					
Sampled Date	Jan 19, 2024 3:00 PM					
Sample Description	Influent					
Location	WHA CIE1 : Pumping Station					
Date Analysis Commenced	Jan 20, 2024					
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Physical Property	Yellow, a lot of odour, solid and some turbid					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Zinc	mg/L	0.003	0.005	0.10	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Note : This Analysis test report is reissued to supersede report No.2873725-3, Date Reported : Jan 26, 2024 due to revise analytical information.

Sampling By : Chainorn Lertnanthakunchai ทะเบียนเลขที่ ๖-323-๖-9461 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

Sauwatee N.

Sauwatee Noisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-6111

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location: WHA CIE 1



TESTING
No.0009
Lot ID: 23147884
Date Received : Jan 19, 2024
Date Reported : Feb 12, 2024
Report Number : 2908654-3

Page 1 of 1

Sample Number	23147884-1					
Sampled Date	Jan 19, 2024 3:00 PM					
Sample Description	Influent					
Location	WHA CIE1 : Pumping Station					
Date Analysis Commenced	Jan 20, 2024					
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Physical Property	Yellow, a lot of odour, solid and some turbid					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	1300000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	10.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2261	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	16.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Note : This Analysis test report is reissued to supersede report No.2873725-3, Date Reported : Jan 26, 2024 due to revise analytical information.

Sampling By : Chainusorn Lertnanthakunchai , Pattarapol Sawangjalitam

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Approved by

Siriluk P.

Siriluk Puengpang
Section Head

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location: WHA CIE 1



TESTING
No.0042
Lot ID: 2411918
Date Received : Jan 31, 2024
Date Reported : Feb 06, 2024
Report Number : 2898448-1

Page 1 of 1

Sample Number	2411918-1					
Sampled Date	Jan 31, 2024 10:40 AM					
Sample Description	Influent					
Location	WHA CIE1 : Pumping Station					
Date Analysis Commenced	Feb 01, 2024					
Condition of Sample	Contained in two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Physical Property	Yellow, a lot of odour, solid and turbid					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	44.0	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	166	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเนษนเสชชี ๖-323-๙-9460

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Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๙-9445

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๙-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23147885
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2873734-1

Page 1 of 2

Sample Number	23147885-1						
Sampled Date	Jan 19, 2024 3:10 PM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	10.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	64	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.0	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1100	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	14.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banchookit

Narumon Banchookit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23147885
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2873734-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Chainusorn Lertnanthakunchai ทะเบียนเลขที่ ๖-323-๖-9461, Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banchookit

Narumon Banchookit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 23147885
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2873734-2

Page 1 of 2

Sample Number	23147885-1						
Sampled Date	Jan 19, 2024 3:10 PM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.22	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.14	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Chanatt L.

Chanattagn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-6111

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 23147885
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2873734-2

Page 2 of 2

Sample Number	23147885-1						
Sampled Date	Jan 19, 2024 3:10 PM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.17	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Chainusorn Lertnathakunchai ทะเบียนเลขที่ ๖-323-๖-9461 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

Chanatt L.

Chanattagn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-6111

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Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1

Lot ID: 23147885

Date Received : Jan 19, 2024

Date Reported : Jan 26, 2024

Report Number : 2873734-3

Page 1 of 1

Sample Number	23147885-1						
Sampled Date	Jan 19, 2024 3:10 PM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	9.47	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1786	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	21.4	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Chainusorn Lertnanthakunchai , Pattarapol Sawangjaitam

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Narumon Banchongkit
Supervisor

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Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING

No.0009

Lot ID: 23147888

Date Received : Jan 19, 2024

Date Reported : Jan 26, 2024

Report Number : 2873742-1

Page 1 of 1

Sample Number	23147888-1						
Sampled Date	Jan 19, 2024 3:10 PM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	79000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pattarapol Sawangjaitam

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Approved by

Suwannee Chuamkeaw
Section Head

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-1

Page 1 of 2

Sample Number 2410536-1
Sampled Date Feb 02, 2024 9:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Feb 02, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	127	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	246	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.3	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	676	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	26.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	135	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Bangchongkit

Narumon Bangchongkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460 , Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-8592

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Technical Management

N. Bangchongkit

Narumon Bangchongkit
Supervisor
ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-2

Page 1 of 2

Sample Number	2410536-1
Sampled Date	Feb 02, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Feb 05, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	1.36	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.003	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ก-6111

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-2

Page 2 of 2

Sample Number	2410536-1
Sampled Date	Feb 02, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Feb 05, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.20	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-ก-9460 , Thanasoun Namakunna ทะเบียนเลขที่ ว-204-ก-8592

Remark :

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Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-ก-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ก-6111

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0009

Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-3

Page 1 of 1

Sample Number	2410536-1
Sampled Date	Feb 02, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Feb 03, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	3300000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	24.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1261	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	24.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Thanasoun Namakunna

Remark :
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Approved by

Sithichok T.

Sithichok Thongnguen
Scientist (3)

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0042

Lot ID: 2410536
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896029-4

Page 1 of 1

Sample Number	2410536-1
Sampled Date	Feb 02, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Feb 05, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Thanasoun Namakunna ทะเบียนเลขที่ ๖-204-๖-8592

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Technical Management

N. Banthit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-1

Page 1 of 2

Sample Number 2410566-1
Sampled Date Feb 02, 2024 10:20 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Feb 02, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	30	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1140	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	12.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banphat

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Chumon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-9-9460 , Thanasoun Namakunna ทะเบียนเลขที่ 7-204-9-8592

Remark :

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Technical Management

N. Banphat

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

D. Chumon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-2

Page 1 of 2

Sample Number	2410566-1
Sampled Date	Feb 02, 2024 10:20 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Feb 05, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.34	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.08	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-6111

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-2

Page 2 of 2

Sample Number	2410566-1
Sampled Date	Feb 02, 2024 10:20 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Feb 05, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.20	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongasachai ทะเบียนเลขที่ ๖-323-๖-9460, Thanasoun Namakunna ทะเบียนเลขที่ ๖-204-๖-8592

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Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-6111

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Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-3

Page 1 of 1

Sample Number	2410566-1						
Sampled Date	Feb 02, 2024 10:20 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Feb 03, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	9.05	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1809	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	19.4	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Thanasoun Namakunna

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Siriluk P.

Siriluk Puengpang
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING

No.0042

Lot ID: 2410566

Date Received : Feb 02, 2024

Date Reported : Feb 09, 2024

Report Number : 2896034-4

Page 1 of 1

Sample Number	2410566-1						
Sampled Date	Feb 02, 2024 10:20 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Feb 05, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ร-323-จ-9460 , Thanasoun Namakunna ทะเบียนเลขที่ ร-204-จ-8592

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Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ร-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-จ-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2410593
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2896083-1

Page 1 of 1

Sample Number	2410593-1
Sampled Date	Feb 02, 2024 10:20 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Feb 03, 2024
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	7000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Thanasoun Namakunna

Remark :
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Approved by

Suwannee Chuamkeaw
Section Head

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 2410576
Date Received : Feb 16, 2024
Date Reported : Feb 23, 2024
Report Number : 2896050-1

Page 1 of 2

Sample Number	2410576-1
Sampled Date	Feb 16, 2024 10:15 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Feb 16, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	59.9	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	133	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.9	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	756	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	11.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	44	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Photchana Seeda
Scientist (4)
โทรศัพท์ ๖-323-๖-9446

Approved by

Dej Changchon
Senior Manager
โทรศัพท์ ๖-323-๖-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2410576

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896050-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Panupong Manit ทะเบียนเลขที่ ๖-204-๖-8600

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ๖-323-๖-9446

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2410576

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896050-2

Page 1 of 2

Sample Number 2410576-1
Sampled Date Feb 16, 2024 10:15 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Feb 19, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	1.33	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	0.001	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.19	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Nisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-6111

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2410576
Date Received : Feb 16, 2024
Date Reported : Feb 23, 2024
Report Number : 2896050-2

Page 2 of 2

Sample Number 2410576-1
Sampled Date Feb 16, 2024 10:15 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Feb 19, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.12	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะนันชัย ว-323-จ-9460 , Panupong Manit ทะนันชัย ว-204-จ-8600

Remark :
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Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

Kanokkom Anek

Kanokkom Anek
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2410576
Date Received : Feb 16, 2024
Date Reported : Feb 23, 2024
Report Number : 2896050-3

Page 1 of 1

Sample Number 2410576-1
Sampled Date Feb 16, 2024 10:15 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Feb 16, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	2800000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	8.94	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1252	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	20.4	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Panupong Mani

Remark :
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Approved by

Suwannee Chumkeaw

Suwannee Chumkeaw
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2410582

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896069-1

Page 1 of 2

Sample Number 2410582-1
Sampled Date Feb 16, 2024 10:00 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Feb 16, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	28	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.5	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1120	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	9.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ 7-323-9-9446

Approved by

D. Chumnu.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ 7-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2410582

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896069-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-9-9460 , Panupong Manit ทะเบียนเลขที่ 7-204-9-8600

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Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ 7-323-9-9446

Approved by

D. Chumnu.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ 7-323-9-9442

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2410582
Date Received : Feb 16, 2024
Date Reported : Feb 23, 2024
Report Number : 2896069-2

Page 1 of 2

Sample Number	2410582-1
Sampled Date	Feb 16, 2024 10:00 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Feb 19, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.38	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.10	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-6111

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2410582
Date Received : Feb 16, 2024
Date Reported : Feb 23, 2024
Report Number : 2896069-2

Page 2 of 2

Sample Number	2410582-1
Sampled Date	Feb 16, 2024 10:00 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Feb 19, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.24	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Panupong Manit ทะเบียนเลขที่ ๖-204-๖-8600

Remark :

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Technical Management

Savitree N.

Savitree Noisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-6111

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1

Lot ID: 2410582

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896069-3

Page 1 of 1

Sample Number	2410582-1						
Sampled Date	Feb 16, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Feb 16, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	7.54	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1768	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	17.3	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Panupong Manit

Remark :

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Approved by

Photchana S.

Photchana Seeda
Scientist (4)

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2410595

Date Received : Feb 16, 2024

Date Reported : Feb 23, 2024

Report Number : 2896086-1

Page 1 of 1

Sample Number	2410595-1						
Sampled Date	Feb 16, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Feb 17, 2024						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	7900.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Panupong Manit

Remark :

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Approved by

Suwannee Chuamkeaw

Suwannee Chuamkeaw
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-1

Page 1 of 2

Sample Number	2421060-1
Sampled Date	Mar 01, 2024 9:50 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Mar 01, 2024
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	39.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	124	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.6	≤45	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	768	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	20.6	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	49	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banchoonkit

Narumon Banchoonkit
Supervisor
ทะเบียนเลขที่ 7-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-ก-9442

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ 7-323-ก-0006 , Panupong Manit ทะเบียนเลขที่ 7-204-ก-0109

Remark :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Technical Management

N. Banchoonkit

Narumon Banchoonkit
Supervisor
ทะเบียนเลขที่ 7-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-ก-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-2

Page 1 of 2

Sample Number 2421060-1
Sampled Date Mar 01, 2024 9:50 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.54	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.006	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-2

Page 2 of 2

Sample Number 2421060-1
Sampled Date Mar 01, 2024 9:50 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.10	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ ๖-323-๖-0006 , Panupong Manit ทะเบียนเลขที่ ๖-204-๖-0109

Remark :

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Technical Management

Savitree N.

Savitree Noisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-3

Page 1 of 1

Sample Number 2421060-1
Sampled Date Mar 01, 2024 9:50 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 01, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment*
preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	790000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	17.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1303	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	4.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athomprommarat , Panupong Manit

Remark :

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Approved by

Suwimon C.

Suwimon Chairuangwut
Scientist (3)

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421060
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917765-4

Page 1 of 1

Sample Number 2421060-1
Sampled Date Mar 01, 2024 9:50 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 04, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment*
preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	0.2	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ ๖-323-๖-0006 , Panupong Manit ทะเบียนเลขที่ ๖-204-๖-0109

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Technical Management

N. Banchongkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2421061

Date Received : Mar 01, 2024

Date Reported : Mar 08, 2024

Report Number : 2917769-1

Page 1 of 2

Sample Number 2421061-1
Sampled Date Mar 01, 2024 9:57 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 01, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	4.1	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	33	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.5	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1110	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	13.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banchookit

Narumon Banchookit
Supervisor
ทะเบียนเลขที่ 3-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-ก-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2421061

Date Received : Mar 01, 2024

Date Reported : Mar 08, 2024

Report Number : 2917769-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ 3-323-ก-0006 , Panupong Manit ทะเบียนเลขที่ 3-204-ก-0109

Remark :

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Technical Management

N. Banchookit

Narumon Banchookit
Supervisor
ทะเบียนเลขที่ 3-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-ก-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1

TESTING

No.0009

Lot ID: 2421061

Date Received : Mar 01, 2024

Date Reported : Mar 08, 2024

Report Number : 2917769-2

Page 1 of 2

Sample Number 2421061-1
Sampled Date Mar 01, 2024 9:57 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.37	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0007	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.09	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1

TESTING

No.0009

Lot ID: 2421061

Date Received : Mar 01, 2024

Date Reported : Mar 08, 2024

Report Number : 2917769-2

Page 2 of 2

Sample Number 2421061-1
Sampled Date Mar 01, 2024 9:57 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.16	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ ๖-323-๖-0006 , Panupong Manit ทะเบียนเลขที่ ๖-204-๖-0109

Remark :

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Technical Management

Sawitree N.

Sawitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2421061
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917769-3

Page 1 of 1

Sample Number	2421061-1						
Sampled Date	Mar 01, 2024 9:57 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Mar 01, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	9.63	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1729	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	15.1	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Nattawut Athomprommarat , Panupong Manit

Remark :
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Approved by

N. Banphit

Narumon Banchongkit
Supervisor

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0042
Lot ID: 2421061
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917769-4

Page 1 of 1

Sample Number	2421061-1						
Sampled Date	Mar 01, 2024 9:57 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Mar 04, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Nattawut Athomprommarat ทะเบียนเลขที่ 7-323-3-0006 , Panupong Mani ทะเบียนเลขที่ 7-204-3-0109

Remark :
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Technical Management

N. Banphit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-3-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-3-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421075
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2917782-1

Page 1 of 1

Sample Number 2421075-1
Sampled Date Mar 01, 2024 9:57 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	240.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Panupong Manit

Remark :

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Approved by

Suwannee Chuankeaw
Section Head

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421068
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2917774-1

Page 1 of 2

Sample Number 2421068-1
Sampled Date Mar 18, 2024 10:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 18, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	27.2	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	79	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.0	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	668	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	11.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	32	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Narumon Banchongkit
Supervisor
โทรศัพท์ 1-323-9-9445

Approved by

Dej Changchon
Senior Manager
โทรศัพท์ 1-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421068

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917774-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

N. Banongkit

Narumon Banhongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421068

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917774-2

Page 1 of 2

Sample Number 2421068-1
Sampled Date Mar 18, 2024 10:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 19, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.59	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Gr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421068
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2917774-2

Page 2 of 2

Sample Number 2421068-1
Sampled Date Mar 18, 2024 10:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 19, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.18	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเนสินเวชชัย ๖-204-๖-๙460 , Pattarapol Sawangjaitam ทะเนสินเวชชัย ๖-204-๖-0002

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Technical Management

Sawitree N.
Sawitree Naisangiam
Manager
ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokkom Anek
Kanokkom Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421068
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2917774-3

Page 1 of 1

Sample Number 2421068-1
Sampled Date Mar 18, 2024 10:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Mar 19, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	7900000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	7.13	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1241	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	20.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

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Approved by

Suwannee Chumkeaw
Suwannee Chumkeaw
Section Head

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2421072

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917776-1

Page 1 of 2

Sample Number 2421072-1
Sampled Date Mar 18, 2024 11:10 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 18, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	28	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.5	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1030	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	11.4	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-จ-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2421072

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917776-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-จ-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-จ-0002

Remark :

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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banongkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-จ-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421072

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917776-2

Page 1 of 2

Sample Number	2421072-1						
Sampled Date	Mar 18, 2024 11:10 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Mar 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.26	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.06	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2421072

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917776-2

Page 2 of 2

Sample Number	2421072-1						
Sampled Date	Mar 18, 2024 11:10 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Mar 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.17	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1

Lot ID: 2421072

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917776-3

Page 1 of 1

Sample Number 2421072-1
Sampled Date Mar 18, 2024 11:10 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 19, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	8.19	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1758	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	13.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

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N. Banthongkit

Narumon Banchongkit
Supervisor

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2421076

Date Received : Mar 18, 2024

Date Reported : Mar 25, 2024

Report Number : 2917784-1

Page 1 of 1

Sample Number 2421076-1
Sampled Date Mar 18, 2024 11:10 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Mar 19, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	24000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pattarapol Sawangjaitam

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Approved by

Suwannee Chuamkeaw

Suwannee Chuamkeaw
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2434394

Date Received : Apr 09, 2024

Date Reported : Apr 19, 2024

Report Number : 2946935-1

Page 1 of 2

Sample Number	2434394-1
Sampled Date	Apr 09, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Apr 09, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	40.7	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	87	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Formaldehyde	mg/L	0.03	0.1	0.1	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.1	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1170	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	19.9	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ 2-323-2-9446

Approved by

D. Chuan

Dej Changchon

Senior Manager

ทะเบียนเลขที่ 2-323-2-9442

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2434394

Date Received : Apr 09, 2024

Date Reported : Apr 19, 2024

Report Number : 2946935-1

Page 2 of 2

Sample Number	2434394-1
Sampled Date	Apr 09, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Apr 09, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	28	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pitthaya Thongtaeng ทะเบียนเลขที่ 2-323-2-9448 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 2-204-2-0002

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Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ 2-323-2-9446

Approved by

D. Chuan

Dej Changchon

Senior Manager

ทะเบียนเลขที่ 2-323-2-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2434394
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946935-2

Page 1 of 2

Sample Number 2434394-1
Sampled Date Apr 09, 2024 9:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Apr 10, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.67	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-0008

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2434394
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946935-2

Page 2 of 2

Sample Number 2434394-1
Sampled Date Apr 09, 2024 9:55 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Apr 10, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.14	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pitthaya Thongtaeng ทะเบียนเลขที่ ๖-323-๖-9448 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-0008

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2434394
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946935-3

Page 1 of 1

Sample Number	2434394-1
Sampled Date	Apr 09, 2024 9:55 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	Apr 10, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	1300000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	17.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2060	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	9.2	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pitthaya Thongtaeng , Pattarapol Sawangjaitam

Remark :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Approved by

Sithichok T.

Sithichok Thongnguen
Scientist (3)

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2434396
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946937-1

Page 1 of 2

Sample Number	2434396-1
Sampled Date	Apr 09, 2024 10:12 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Apr 09, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	970	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	10.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong

Technical Management

N. Banchohkit

Narumon Banchohkit
Supervisor
โทรศัพท์ ๖-323-๖-9445

Approved by

D. Chanchong

Dej Chanchong
Senior Manager
โทรศัพท์ ๖-323-๖-9442

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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 2434396

Date Received : Apr 09, 2024

Date Reported : Apr 19, 2024

Report Number : 2946937-1

Page 2 of 2

Sample Number	2434396-1						
Sampled Date	Apr 09, 2024 10:12 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Apr 09, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pitthaya Thongtaeng ทะเบียนเลขที่ ๖-323-๖-9448 , Pattarapol Sawangjaitan ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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Technical Management

N. Banchoikit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location: WHA CIE 1



TESTING
No.0009

Lot ID: 2434396

Date Received : Apr 09, 2024

Date Reported : Apr 19, 2024

Report Number : 2946937-2

Page 1 of 2

Sample Number	2434396-1						
Sampled Date	Apr 09, 2024 10:12 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Apr 10, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.12	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Gr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.12	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Chanatt L.

Chanattagorn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2434396
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946937-2

Page 2 of 2

Sample Number 2434396-1
Sampled Date Apr 09, 2024 10:12 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 10, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.19	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pitthaya Thongtaeng ทะเบียนเลขที่ ๖-323-๖-9448 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

Chanatt L.

Chanattagn Imchom
Section Head
ทะเบียนเลขที่ ๖-204-๖-0008

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2434396
Date Received : Apr 09, 2024
Date Reported : Apr 19, 2024
Report Number : 2946937-3

Page 1 of 1

Sample Number 2434396-1
Sampled Date Apr 09, 2024 10:12 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 10, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	7.63	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1752	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	13.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pitthaya Thongtaeng , Pattarapol Sawangjaitam

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



Accreditation No. 1031/47

Lot ID: 2434406

Date Received : Apr 09, 2024

Date Reported : Apr 18, 2024

Report Number : 2946951-1

Page 1 of 1

Sample Number 2434406-1
Sampled Date Apr 09, 2024 9:12 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 10, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	4900.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Jirayu Raengritdi

Remark :

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Suwannee Chumkeaw
Section Head

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2434402

Date Received : Apr 22, 2024

Date Reported : Apr 29, 2024

Report Number : 2946944-1

Page 1 of 2

Sample Number 2434402-1
Sampled Date Apr 22, 2024 9:46 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Apr 22, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	* Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	10.4	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	51	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.0	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	992	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	9.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2434402

Date Received : Apr 22, 2024

Date Reported : Apr 29, 2024

Report Number : 2946944-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central
wastewater Treatment Plant

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-9476 , Kardbundit Kitupavanit ทะเบียนเลขที่ ว-204-จ-0001

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Technical Management

N. Banichongkit

Narumon Banichongkit
Supervisor

ทะเบียนเลขที่ ว-323-จ-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-จ-9442

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2434402

Date Received : Apr 22, 2024

Date Reported : Apr 29, 2024

Report Number : 2946944-2

Page 1 of 2

Sample Number 2434402-1
Sampled Date Apr 22, 2024 9:46 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment -
preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.50	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.05	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-0004

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2434402
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946944-2

Page 2 of 2

Sample Number	2434402-1						
Sampled Date	Apr 22, 2024 9:46 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Apr 23, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.15	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ 7-323-9-9476 , Kardbundit Kitisupavanit ทะเบียนเลขที่ 7-204-9-0001

Remark :

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Technical Management

Savitree N.

Savitree Noisangiam

Manager

ทะเบียนเลขที่ 7-204-9-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ 7-204-9-0004

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2434402
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946944-3

Page 1 of 1

Sample Number	2434402-1						
Sampled Date	Apr 22, 2024 9:46 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Apr 23, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	490000.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	8.26	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1602	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	30.8	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun , Kardbundit Kitisupavanit

Remark :

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Approved by

Suwannee Chumkeaw

Suwannee Chumkeaw

Section Head

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0042

Lot ID: 2434403
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946945-1

Page 1 of 2

Sample Number 2434403-1
Sampled Date Apr 22, 2024 9:55 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 22, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.9	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.8	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1150	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	4.3	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

N. Banchoonkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-ก-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0042

Lot ID: 2434403
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946945-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Paramet Sattayakun ทะเบียนเลขที่ 7-323-ก-9476 , Kardbundi Kitisupavanit ทะเบียนเลขที่ 7-204-ก-0001

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Technical Management

N. Banchoonkit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-ก-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-ก-9442

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P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2434403

Date Received : Apr 22, 2024

Date Reported : Apr 29, 2024

Report Number : 2946945-2

Page 1 of 2

Sample Number 2434403-1
Sampled Date Apr 22, 2024 9:55 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.007	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.15	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.16	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ 7-204-3-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-3-0004

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2434403

Date Received : Apr 22, 2024

Date Reported : Apr 29, 2024

Report Number : 2946945-2

Page 2 of 2

Sample Number 2434403-1
Sampled Date Apr 22, 2024 9:55 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.22	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ 7-323-3-9476 , Kardbundit Kitipavanit ทะเบียนเลขที่ 7-204-3-0001

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Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ 7-204-3-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-3-0004

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P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2434403
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946945-3

Page 1 of 1

Sample Number 2434403-1
Sampled Date Apr 22, 2024 9:55 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	2.45	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1714	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	12.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Paramet Sattayakun , Kardbudit Kitisupavanit

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N. Banchoangkit

Narumon Banchongkit
Supervisor

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



Accreditation No. 1031/47

Lot ID: 2434407
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946952-1

Page 1 of 1

Sample Number 2434407-1
Sampled Date Apr 22, 2024 9:55 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, no solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	13000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Kardbudit Kitisupavanit

Remark :
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Approved by

Suwannee Chuamkeaw

Suwannee Chuamkeaw
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2446359

Date Received : May 06, 2024

Date Reported : May 14, 2024

Report Number : 2974162-1

Page 1 of 2

Sample Number 2446359-1
Sampled Date May 06, 2024 10:05 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	15.3	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	62	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	30	≤600	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	29	≤600	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.9	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1360	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
ทะเบียนเลขที่ 3-323-3-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-3-9442

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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2446359

Date Received : May 06, 2024

Date Reported : May 14, 2024

Report Number : 2974162-1

Page 2 of 2

Sample Number 2446359-1
Sampled Date May 06, 2024 10:05 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	16.7	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	21	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 3-323-3-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 3-204-3-0002

Remark :

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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
ทะเบียนเลขที่ 3-323-3-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-3-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446359
Date Received : May 06, 2024
Date Reported : May 14, 2024
Report Number : 2974162-2

Page 1 of 2

Sample Number	2446359-1
Sampled Date	May 06, 2024 10:05 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	May 07, 2024
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.009	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.25	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Naisangiam
Manager
ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanok Korn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ก-0004

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446359
Date Received : May 06, 2024
Date Reported : May 14, 2024
Report Number : 2974162-2

Page 2 of 2

Sample Number	2446359-1
Sampled Date	May 06, 2024 10:05 AM
Sample Description	Influent
Location	WHA CIE1 : Pumping Station
Date Analysis Commenced	May 07, 2024
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.57	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	9.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ว-323-จ-9460, Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

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Technical Management

Sawitree N.

Sawitree Naisangiam
Manager
ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanok Korn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-ก-0004

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446359

Date Received : May 06, 2024

Date Reported : May 14, 2024

Report Number : 2974162-3

Page 1 of 1

Sample Number	2446359-1						
Sampled Date	May 06, 2024 10:05 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	May 06, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	330000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	14.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2166	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

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Approved by

Suwannee Chumkeaw
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2446359

Date Received : May 06, 2024

Date Reported : May 14, 2024

Report Number : 2974162-4

Page 1 of 1

Sample Number	2446359-1						
Sampled Date	May 06, 2024 10:05 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	May 07, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-9-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-9-0002

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Technical Management

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 7-323-9-9445

Approved by

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2446361

Date Received : May 06, 2024

Date Reported : May 13, 2024

Report Number : 2974179-1

Page 1 of 2

Sample Number 2446361-1
Sampled Date May 06, 2024 10:35 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.6	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	38	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	28	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	28	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	4	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1270	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor

ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2446361

Date Received : May 06, 2024

Date Reported : May 13, 2024

Report Number : 2974179-1

Page 2 of 2

Sample Number 2446361-1
Sampled Date May 06, 2024 10:35 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	3.4	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor

ทะเบียนเลขที่ ๖-323-๖-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446361
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974179-2

Page 1 of 2

Sample Number 2446361-1
Sampled Date May 06, 2024 10:35 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.10	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.05	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Siriluk P.

Siriluk Bunnak
Section Head
ทะเบียนเลขที่ ๖-204-๖-0013

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446361
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974179-2

Page 2 of 2

Sample Number 2446361-1
Sampled Date May 06, 2024 10:35 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.13	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ ๖-323-๖-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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Technical Management

Siriluk P.

Siriluk Bunnak
Section Head
ทะเบียนเลขที่ ๖-204-๖-0013

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2446361
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974179-3

Page 1 of 1

Sample Number	2446361-1						
Sampled Date	May 06, 2024 10:35 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 06, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	2.25	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1759	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Total Phosphorus as P	mg/L	0.2	0.5	15.6	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

Remark :
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Approved by

N. Banchookit

Narumon Banchongkit
Supervisor

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2446361
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974179-4

Page 1 of 1

Sample Number	2446361-1						
Sampled Date	May 06, 2024 10:35 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 07, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเนษิต วงศ์ชาติ 323-9-9460 , Pattarapol Sawangjaitam ปัทธรรพ สว่างใจตาม ทะเนษิต วงศ์ชาติ 323-9-9460

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Technical Management

N. Banchookit

Narumon Banchongkit
Supervisor
ทะเบียนเลขที่ 323-9-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 323-9-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0009
Lot ID: 2446371
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974219-1

Page 1 of 1

Sample Number 2446371-1
Sampled Date May 06, 2024 10:35 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 07, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	13000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pattarapol Sawangitaim

Remark :

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Approved by

Tuanjai Thangklang
Manager

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0042
Lot ID: 2446366
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974198-1

Page 1 of 2

Sample Number 2446366-1
Sampled Date May 20, 2024 9:40 AM
Sample Description Inflow
Location WHA CIE1 : Pumping Station
Date Analysis Commenced May 20, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	23.2	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	59	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	18	≤600	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	17	≤600	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.0	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	956	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ๖-323-๖-9446

Approved by

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2446366
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974198-1

Page 2 of 2

Sample Number 2446366-1
Sampled Date May 20, 2024 9:40 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced May 20, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	8.9	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเนษิตวงศ์ชัย ว-323-จ-9460, Pattarapol Sawangjaitam ทะเนษิตชัย ว-204-จ-0002

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9446

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ ว-323-จ-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446366
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974198-2

Page 1 of 2

Sample Number 2446366-1
Sampled Date May 20, 2024 9:40 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced May 21, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.82	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager
ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ว-204-จ-0004

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446366

Date Received : May 20, 2024

Date Reported : May 28, 2024

Report Number : 2974198-2

Page 2 of 2

Sample Number	2446366-1						
Sampled Date	May 20, 2024 9:40 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	May 21, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, solid and some turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.16	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	5.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai ทะเนสินวงศ์ ๖-323-๖-9460 , Pattarapol Sawangjaitam ทะเบินณฐ ๖-204-๖-0002

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Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ ๖-204-๖-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ๖-204-๖-0004

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446366

Date Received : May 20, 2024

Date Reported : May 28, 2024

Report Number : 2974198-3

Page 1 of 1

Sample Number	2446366-1						
Sampled Date	May 20, 2024 9:40 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	May 21, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, solid and some turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	49000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	5.25	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1633	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

Remark :

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2446368
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974212-1

Page 1 of 2

Sample Number	2446368-1						
Sampled Date	May 20, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.4	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	30	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	27	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	25	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1210	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
โทรศัพท์ 3-323-9-9446

Approved by

D. Chonchon

Dej Changchon
Senior Manager
โทรศัพท์ 3-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2446368
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974212-1

Page 2 of 2

Sample Number	2446368-1						
Sampled Date	May 20, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	11.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Tanasit Wongsachai ทะนันชัย 3-323-9-9460 , Pattarapol Sawangjaitam ปัทวระพี 3-204-9-0002

Remark :

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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
โทรศัพท์ 3-323-9-9446

Approved by

D. Chonchon

Dej Changchon
Senior Manager
โทรศัพท์ 3-323-9-9442

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Analysis / Test Report

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2446368

Date Received : May 20, 2024

Date Reported : May 28, 2024

Report Number : 2974212-2

Page 1 of 2

Sample Number 2446368-1
Sampled Date May 20, 2024 10:00 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 21, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.004	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.11	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.05	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ 7-204-ก-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-ก-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0009

Lot ID: 2446368

Date Received : May 20, 2024

Date Reported : May 28, 2024

Report Number : 2974212-2

Page 2 of 2

Sample Number 2446368-1
Sampled Date May 20, 2024 10:00 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced May 21, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.19	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	15.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai ทะเบียนเลขที่ 7-323-ก-9460 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-ก-0002

Remark :

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Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ 7-204-ก-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-ก-0004

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2446368
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974212-3

Page 1 of 1

Sample Number	2446368-1						
Sampled Date	May 20, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 21, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	7.56	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1813	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjalatam

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Photchana S.

Photchana Seeda
Scientist (4)

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2446372
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2974232-1

Page 1 of 1

Sample Number	2446372-1						
Sampled Date	May 20, 2024 10:00 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	May 21, 2024						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, odourless, some solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	7900.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pattarapol Sawangjalatam

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Approved by

Sithichok T.

Sithichok Thongnguen
Scientist (3)

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2459594

Date Received : Jun 03, 2024

Date Reported : Jun 14, 2024

Report Number : 3003626-1

Page 1 of 2

Sample Number 2459594-1
Sampled Date Jun 03, 2024 9:52 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Jun 03, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	16.4	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	49	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.4	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1300	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	6.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	24	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-ค-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING

No.0042

Lot ID: 2459594

Date Received : Jun 03, 2024

Date Reported : Jun 14, 2024

Report Number : 3003626-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Saknarin Jaraskay ทะเบียนเลขที่ ว-323-จ-9452 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

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Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ ว-323-จ-9447

Approved by

D. Chongchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-ค-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459594
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003626-2

Page 1 of 2

Sample Number 2459594-1
Sampled Date Jun 03, 2024 9:52 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.59	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.07	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459594
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003626-2

Page 2 of 2

Sample Number 2459594-1
Sampled Date Jun 03, 2024 9:52 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.23	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	8.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Saknarin Jaraskay ทะเบียนเลขที่ ว-323-จ-9452 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

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Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0009

Lot ID: 2459594
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003626-3

Page 1 of 1

Sample Number 2459594-1
Sampled Date Jun 03, 2024 9:52 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Jun 03, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	170000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	4.14	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2100	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Saknarin Jaraskay , Pattarapol Sawangjaitam

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Approved by

Suwannee Chuamkeaw
Section Head

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2459594
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003626-4

Page 1 of 1

Sample Number 2459594-1
Sampled Date Jun 03, 2024 9:52 AM
Sample Description Influent
Location WHA CIE1 : Pumping Station
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Saknarin Jaraskay , Pattarapol Sawangjaitam

Remark :
- LOD : Limit of Detection
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Approved by

Thanita Kulsuriwong
Scientist (4)

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459597

Date Received : Jun 03, 2024

Date Reported : Jun 14, 2024

Report Number : 3003628-1

Page 1 of 2

Sample Number	2459597-1
Sampled Date	Jun 03, 2024 10:04 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Jun 03, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	4.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	33	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.9	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1190	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	5.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

ทะเบียนเลขที่ ร-323-จ-9447

Approved by

D. Chanchon

Dej Chanchon
Senior Manager

ทะเบียนเลขที่ ร-323-จ-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459597

Date Received : Jun 03, 2024

Date Reported : Jun 14, 2024

Report Number : 3003628-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Saknarin Jaraskaj ทะเบียนเลขที่ ร-323-จ-9452 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-จ-0002

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Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)

ทะเบียนเลขที่ ร-323-จ-9447

Approved by

D. Chanchon

Dej Chanchon
Senior Manager

ทะเบียนเลขที่ ร-323-จ-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0009

Lot ID: 2459597
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003628-2

Page 1 of 2

Sample Number 2459597-1
Sampled Date Jun 03, 2024 10:04 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.12	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.05	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

TESTING
No.0009

Lot ID: 2459597
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003628-2

Page 2 of 2

Sample Number 2459597-1
Sampled Date Jun 03, 2024 10:04 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.14	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	16.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Saknarin Jaraskay ทะเบียนเลขที่ ว-323-จ-9452 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

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Technical Management

Savitree N.

Savitree Noisangiam
Manager

ทะเบียนเลขที่ ว-204-จ-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ ว-204-จ-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2459597
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003628-3

Page 1 of 1

Sample Number 2459597-1
Sampled Date Jun 03, 2024 10:04 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 03, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.02	0.05	1.34	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	2013	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Saknarin Jaraskay , Pattarapol Sawangjaitam

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Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459597
Date Received : Jun 03, 2024
Date Reported : Jun 14, 2024
Report Number : 3003628-4

Page 1 of 1

Sample Number 2459597-1
Sampled Date Jun 03, 2024 10:04 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Saknarin Jaraskay ทะเบียนเลขที่ 7-323-9-9452 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-9-0002

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Technical Management

Thanita K.

Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ 7-323-9-9447

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-9-9442

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459612

Date Received : Jun 03, 2024

Date Reported : Jun 10, 2024

Report Number : 3003654-1

Page 1 of 1

Sample Number	2459612-1						
Sampled Date	Jun 03, 2024 10:04 AM						
Sample Description	Effluent						
Location	WHA CIE1 : WWTP						
Date Analysis Commenced	Jun 04, 2024						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	7000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Saknarin Jaraskay

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Approved by

Suwannee Chumkeaw
Section Head

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Thailand 20230

P/O :

Project Name :

Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459608

Date Received : Jun 17, 2024

Date Reported : Jun 24, 2024

Report Number : 3003646-1

Page 1 of 2

Sample Number	2459608-1						
Sampled Date	Jun 17, 2024 10:10 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jun 17, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	186	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	342	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.1	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	892	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	5.6	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ 7-323-จ-9449

Approved by

Dej Changchon
Senior Manager
ทะเบียนเลขที่ 7-323-จ-9442

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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459608
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3003646-1

Page 2 of 2

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Suphanat Sakulk ทะเบียนเลขที่ ร-323-จ-0021 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-จ-0002

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ร-323-จ-9449

Approved by

D. Changchon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-จ-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459608
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3003646-2

Page 1 of 2

Sample Number : 2459608-1
Sampled Date : Jun 17, 2024 10:10 AM
Sample Description : Influent
Location : WHA CIE1 : Pumping Station
Date Analysis Commenced : Jun 18, 2024
Condition of Sample : Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.15	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.007	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Narin Saiseng
Narin Saiseng
Supervisor
ทะเบียนเลขที่ ร-204-จ-0009

Approved by

Kanokkorn Anek
Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ ร-204-จ-0004

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Analysis / Test Report

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Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459608
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3003646-2

Page 2 of 2

Sample Number	2459608-1						
Sampled Date	Jun 17, 2024 10:10 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jun 18, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.08	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	17.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Suphanat Sakulk ทะเบียนเลขที่ 7-323-9-0021, Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-9-0002

Remark :

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Technical Management

Narin Saiseng

Narin Saiseng
Supervisor
ทะเบียนเลขที่ 7-204-9-0009

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ 7-204-9-0004

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Thailand 20230
P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2459608
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3003646-3

Page 1 of 1

Sample Number	2459608-1						
Sampled Date	Jun 17, 2024 10:10 AM						
Sample Description	Influent						
Location	WHA CIE1 : Pumping Station						
Date Analysis Commenced	Jun 18, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	490000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.05	0.1	3.0	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1306	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

Sampling By : Suphanat Sakulk , Pattarapol Sawangjaitam

Remark :

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Approved by

Sithichok T.

Sithichok Thongnuen
Scientist (3)

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459609
Date Received : Jun 17, 2024
Date Reported : Jun 28, 2024
Report Number : 3003649-1

Page 1 of 2

Sample Number	2459609-1
Sampled Date	Jun 17, 2024 10:22 AM
Sample Description	Effluent
Location	WHA CIE1 : WWTP
Date Analysis Commenced	Jun 17, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, odourless, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.7	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	35	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.5	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	984	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	9.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ว-323-ก-9449

Approved by

D. Chumon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-ก-9442

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2459609
Date Received : Jun 17, 2024
Date Reported : Jun 28, 2024
Report Number : 3003649-1

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Suphanat Sakulk ทะเบียนเลขที่ ว-323-ก-0021 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-ก-0002

Remark :

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Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ว-323-ก-9449

Approved by

D. Chumon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-ก-9442

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2459609
Date Received : Jun 17, 2024
Date Reported : Jun 28, 2024
Report Number : 3003649-2

Page 1 of 2

Sample Number 2459609-1
Sampled Date Jun 17, 2024 10:22 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.13	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.06	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Narin Saiseng
Supervisor
ทะเบียนเลขที่ 7-204-3-0009

Approved by

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ 7-204-3-0004

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Analysis / Test Report

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009
Lot ID: 2459609
Date Received : Jun 17, 2024
Date Reported : Jun 28, 2024
Report Number : 3003649-2

Page 2 of 2

Sample Number 2459609-1
Sampled Date Jun 17, 2024 10:22 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.14	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	11.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Suphanat Sakulk ทะเบียนเลขที่ 7-323-3-0021 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-3-0002

Remark :

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Technical Management

Narin Saiseng
Supervisor
ทะเบียนเลขที่ 7-204-3-0009

Approved by

Kanokkorn Anek
Senior Manager
ทะเบียนเลขที่ 7-204-3-0004

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Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1

Lot ID: 2459609
Date Received : Jun 17, 2024
Date Reported : Jun 28, 2024
Report Number : 3003649-3

Page 1 of 1

Sample Number 2459609-1
Sampled Date Jun 17, 2024 10:22 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, odourless, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen	mg/L	0.05	0.1	7.6	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Conductivity at 25 Degree C	micromhos/cm	-	0.5	1567	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Suphanat Sakulk , Pattarapol Sawangjaitam

Remark :
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Approved by

Chontichak

Chonticha Subongkoch
Scientist (3)

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name :
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 2467438
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3023850-1

Page 1 of 1

Sample Number 2467438-1
Sampled Date Jun 17, 2024 10:22 AM
Sample Description Effluent
Location WHA CIE1 : WWTP
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Microbiological Testing							
Total Coliform	MPN/100mL	-	-	49000.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Pattarapol Sawangjaitam

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Suwannee Chuamkeaw

Suwannee Chuamkeaw
Section Head

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
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ภาคผนวก ค-4

คุณลักษณะน้ำเสียโรงงาน



Analysis / Test Report



TESTING

No.0042

Lot ID: 23148221

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2574889-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number : 23148221-1
Sample Date : Jan 12, 2024 2:21 PM
Sample Description : Wastewater
Contract ID : L-WHA CIEL 004_2564 Plot : 2-55G Site : AGRISYRUP INDUSTRY (THAILAND) Co.,Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	189	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O G	Kayap
Oil & Grease	mg/L	-	1	9	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayap
pH (on site) *		-	-	6.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayap

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Chaiyosorn Lertsanathakulchai (0909090909) 9-323-9-9461

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
- Analytical method : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management : N. Banomyit
Approved by : D. Chongchon
Narumon Banomyit
Supervisor
0909090909 9-323-9-9461
Dej Chongchon
Senior Manager
0909090909 9-323-9-9461

Address 616/10 Moo 5 : 7 Marnin Eka A Phukdang Rong 21140 Thailand PHONE 086 5 9304 8555 FAX 086 5 304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148219

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2574887-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number : 23148219-1
Sample Date : Jan 12, 2024 2:16 PM
Sample Description : Wastewater
Contract ID : L-WHA CIEL 004_2564 Plot : 2-55G Site : AGRISYRUP INDUSTRY (THAILAND) Co.,Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, some odour, mild and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	51.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O G	Kayap
Oil & Grease	mg/L	-	1	1.1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayap
pH (on site) *		-	-	6.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayap

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Chaiyosorn Lertsanathakulchai (0909090909) 9-323-9-9461

Remark :
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- "L" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
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Technical Management : N. Banomyit
Approved by : D. Chongchon
Narumon Banomyit
Supervisor
0909090909 9-323-9-9461
Dej Chongchon
Senior Manager
0909090909 9-323-9-9461

Address 616/10 Moo 5 : 7 Marnin Eka A Phukdang Rong 21140 Thailand PHONE 086 5 9304 8555 FAX 086 5 304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148220

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2574885-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number : 23148220-1
Sample Date : Jan 12, 2024 2:19 PM
Sample Description : Wastewater
Contract ID : L-WHA CIEL 004_2564 Plot : 2-55H Site : AGRISYRUP INDUSTRY (THAILAND) Co.,Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	183	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O G	Kayap
Oil & Grease	mg/L	-	1	1.1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayap
pH (on site) *		-	-	6.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayap

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Chaiyosorn Lertsanathakulchai (0909090909) 9-323-9-9461

Remark :
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- "L" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
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Technical Management : N. Banomyit
Approved by : D. Chongchon
Narumon Banomyit
Supervisor
0909090909 9-323-9-9461
Dej Chongchon
Senior Manager
0909090909 9-323-9-9461

Address 616/10 Moo 5 : 7 Marnin Eka A Phukdang Rong 21140 Thailand PHONE 086 5 9304 8555 FAX 086 5 304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148227

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 2874917-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number : 23148227-1
Sample Date : Jan 11, 2024 10:40 AM
Sample Description : Wastewater
Contract ID : L-WHA CIEL 004_2564 Plot : 2-50B Site : AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	53.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O G	Kayap
Oil & Grease	mg/L	-	1	6	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayap
pH (on site) *		-	-	6.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayap

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Parom Satsayakorn (0909090909) 9-323-9-9461

Remark :
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- "L" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
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Technical Management : N. Banomyit
Approved by : D. Chongchon
Narumon Banomyit
Supervisor
0909090909 9-323-9-9461
Dej Chongchon
Senior Manager
0909090909 9-323-9-9461

Address 616/10 Moo 5 : 7 Marnin Eka A Phukdang Rong 21140 Thailand PHONE 086 5 9304 8555 FAX 086 5 304 8556
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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148229

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 2874926-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	23148229-1						
Sample Date	Jan 11, 2024 10:50 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_007_2560	Plot	2-560	Site	AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment- preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	74.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Bayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakorn วิเศษสุวรรณ ๖-323-๙-9476

Remark :

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิเศษสุวรรณ ๖-323-๙-9445

Dej Chongchon
Senior Manager
วิเศษสุวรรณ ๖-323-๙-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148196

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2875493-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	23148196-1						
Sample Date	Jan 12, 2024 2:08 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_008_2558	Plot	2-558	Site	Antag City		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	89.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	3	1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Chaiyosorn Lertsakulakorn วิเศษสุวรรณ ๖-323-๙-9463

Remark :

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิเศษสุวรรณ ๖-323-๙-9445

Dej Chongchon
Senior Manager
วิเศษสุวรรณ ๖-323-๙-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148158

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2874823-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	23148158-1						
Sample Date	Jan 05, 2024 11:00 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_009_2557	Plot	8-108	Site	Antac (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	50.4	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanawat Wongsachai วิเศษสุวรรณ ๖-323-๙-9460

Remark :

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิเศษสุวรรณ ๖-323-๙-9445

Dej Chongchon
Senior Manager
วิเศษสุวรรณ ๖-323-๙-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148176

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2885000-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	23148176-1						
Sample Date	Jan 12, 2024 9:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_008_2558	Plot	A-08C	Site	Asale Diamond (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	160	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanawat Wongsachai วิเศษสุวรรณ ๖-323-๙-9460

Remark :

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิเศษสุวรรณ ๖-323-๙-9445

Dej Chongchon
Senior Manager
วิเศษสุวรรณ ๖-323-๙-9442

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148251

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2875515-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148251-1						
Sample Date	Jan 12, 2024 10:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2559	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	—	1.0	45.3	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NHO (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	—	5	16	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakum วิจัยอุตสาหกรรม 323-4-945

Remarks:
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * were not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banchoang

Natnun Banchoang
Supervisor
วิจัยอุตสาหกรรม 323-4-945

Approved by

D. Chumchong

Dej Chumchong
Senior Manager
วิจัยอุตสาหกรรม 323-4-945

Result apply to the company as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148251

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2875515-2

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148251-1						
Sample Date	Jan 12, 2024 10:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2559	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Flow rate	m ³ /s	—	—	0.000	No Standard	Flow meter	Rayong
Colour	—	—	—	Odour	No objectionable	TDS, 257-2549	Rayong
Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge in central wastewater Treatment Plant							
Sampling By : Paramee Sittayakum							
Remark :							

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakum วิจัยอุตสาหกรรม 323-4-945

Remarks:
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- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
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Approved by

N. Banchoang

Natnun Banchoang
Supervisor
วิจัยอุตสาหกรรม 323-4-945

ADDRESS 61/6/2 Moo 5 T. Maung Krua & Phakdang Rong 21140 Thailand PHONE +66 0 3204 8555 FAX +66 0 3204 8556

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148260

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2875517-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148260-1						
Sample Date	Jan 12, 2024 10:16 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2559	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Process						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
CO ₂	mg/L	1.5	25	39	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADME	-	5	8	≤600	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADME	-	1	1	≤600	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Oil & Grease	mg/L	-	1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site)	-	-	-	8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CI (F)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CI (F)	Rayong
Temperature *	Degree C	-	-	28.9	≤45	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Technical Management

N. Banchoang

Natnun Banchoang
Supervisor
วิจัยอุตสาหกรรม 323-4-945

Approved by

D. Chumchong

Dej Chumchong
Senior Manager
วิจัยอุตสาหกรรม 323-4-945

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148260

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2875517-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148260-1						
Sample Date	Jan 12, 2024 10:16 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2559	Plot	A	Site	B. Green Power (WHA) Limited.		
Location	Process						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	12.40	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.4	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NHO (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	17	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 D	Rayong
Guideline: Notification of the Industrial Estate Authority of Thailand No. 76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant							
Sampling By : Panont Sattayakun รหัสผู้ตรวจฯ 323-9-9476							
Remarks :							
- LOD : Limit of Detection							
- "x" : Lower limit (LOQ (Limit of Quantitation) / LOB (Limit of Reporting))							
- Analytical method * were not included in scope of accreditation (ISO/IEC 17025)							
- The laboratory has been accredited to an accredited laboratory complying with the (ISO/IEC 17025)							

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakum วิจัยอุตสาหกรรม 323-4-945

Remarks:
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * were not included in scope of Accreditation (ISO/IEC 17025)
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Approved by

N. Banchoang

Natnun Banchoang
Supervisor
วิจัยอุตสาหกรรม 323-4-945

ADDRESS 61/6/2 Moo 5 T. Maung Krua & Phakdang Rong 21140 Thailand PHONE +66 0 3204 8555 FAX +66 0 3204 8556

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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 23148260
Date Received : Jan 12, 2024
Date Reported : Jan 16, 2024
Report Number : 2875517-2

Page 1 of 1

Sample Number : 23148260-1
Sample Date : Jan 12, 2024 10:16 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot A Site B: Green Power (WHA) 1 Limited
Location : Process
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Flow rate	m ³ /s	-	-	0.017	No Standard	Flow meter	Rayong
Odour		-	-	Odourless	TB, TB7-2949	Rayong	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattayakorn

Remark :
- LOD : Limit of Detection
- LOQ : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- LOB : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)

Approved by

N. Banthong

Narumon Banthongkiet
Supervisor

ADDRESS 816/10 Moo 8 T. Maeng Kho A. Phakdingkang Rayong 11140 Thailand PHONE +66 0 3304 8555 FAX +66 0 3304 8556
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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148150
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874904-2

Page 1 of 1

Sample Number : 23148150-1
Sample Date : Jan 05, 2024 9:28 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot B: G Site B: B.I.G. Co., Ltd.
Location : Process
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOO (5 days at 20 Degree C)	mg/L	-	2.0	<0.5	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	5	<3	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachal mduwua@v-323-n-9445

Remark :
- LOD : Limit of Detection
- LOQ : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- LOB : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method : Value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
mduwua@v-323-n-9445

Approved by

D. Chumpon

Dej Chumpon
Senior Manager
mduwua@v-323-n-9442

ADDRESS 816/10 Moo 8 T. Maeng Kho A. Phakdingkang Rayong 11140 Thailand PHONE +66 0 3304 8555 FAX +66 0 3304 8556
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

TESTING
No.0042
Lot ID: 23148256
Date Received : Jan 11, 2024
Date Reported : Jan 17, 2024
Report Number : 2875505-1

Page 1 of 1

Sample Number : 23148256-1
Sample Date : Jan 11, 2024 2:55 PM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot A: 6 Site B: BHN (THAILAND) Co., Ltd.
Location : Process
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOO (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
COO	mg/L	-	1.5	<25	<750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Oil & Grease	mg/L	-	5	<3	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	11	<200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattayakorn mduwua@v-323-n-9445

Remark :
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- LOQ : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- LOB : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
mduwua@v-323-n-9445

Approved by

D. Chumpon

Dej Chumpon
Senior Manager
mduwua@v-323-n-9442

ADDRESS 816/10 Moo 8 T. Maeng Kho A. Phakdingkang Rayong 11140 Thailand PHONE +66 0 3304 8555 FAX +66 0 3304 8556
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148247
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875520-1

Page 1 of 1

Sample Number : 23148247-1
Sample Date : Jan 11, 2024 10:05 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot B: 5 Site B: Boncale (Thailand) Ltd
Location : Process
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOO (5 days at 20 Degree C)	mg/L	-	2.0	66.7	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	5	<3	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	11	<200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattayakorn mduwua@v-323-n-9445

Remark :
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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
mduwua@v-323-n-9445

Approved by

D. Chumpon

Dej Chumpon
Senior Manager
mduwua@v-323-n-9442

ADDRESS 816/10 Moo 8 T. Maeng Kho A. Phakdingkang Rayong 11140 Thailand PHONE +66 0 3304 8555 FAX +66 0 3304 8556
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 23148162
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874831-1

Page 1 of 1

Sample Number	23148162-1						
Sampled Date	Jan 11, 2024 10:50 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_505_2357	Plot	B-04	Site	Castool Tooling systems		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	15.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิไลวรรณ น-323-9-9476

Remarks :
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Technical Management
N. Bangmit
Narumon Banchoangkit
Supervisor
วิไลวรรณ น-323-9-9476

Approved by
Dej Changchorn
Senior Manager
วิไลวรรณ น-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 23148222
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874894-1

Page 1 of 1

Sample Number	23148222-1						
Sample Date	Jan 11, 2024 11:35 AM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	2-34-2-38	Site	Celerane (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days) at 20 Degree C	mg/L	-	2.0	12.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิไลวรรณ น-323-9-9476

Remarks :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Technical Management
N. Bangmit
Narumon Banchoangkit
Supervisor
วิไลวรรณ น-323-9-9445

Approved by
Dej Changchorn
Senior Manager
วิไลวรรณ น-323-9-9442

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ADDRESS 816/10 Moo 5 T. Maekam-Ek A. Phakdangrayong 21140 Thailand PHONE +66 0 3304 8555 FAX +66 0 3304 8556
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1317-1212-0946

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 23148206
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2875716-1

Page 1 of 1

Sample Number	23148206-1						
Sampled Date	Jan 05, 2024 3:07 PM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	D.13/1.D.13/1(A)	Site	Chlorbus Clean Energy Co., Ltd.		
Date Analysis Commenced	JAN 05, 2024						
Condition of Sample	Contained in one amber glass bottle and nine plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) =				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasak Wongpachai วิไลวรรณ น-323-9-9460

Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management
N. Bangmit
Narumon Banchoangkit
Supervisor
วิไลวรรณ น-323-9-9445

Approved by
Dej Changchorn
Senior Manager
วิไลวรรณ น-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 23148193
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875478-1

Page 1 of 1

Sample Number	23148193-1						
Sample Date	Jan 11, 2024 2:40 PM						
Sample Description	Wastewater						
Contract ID	L_CHE_028_3550	Plot	2-48	Site	Cull Tech Steel (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิไลวรรณ น-323-9-9476

Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management
N. Bangmit
Narumon Banchoangkit
Supervisor
วิไลวรรณ น-323-9-9445

Approved by
Dej Changchorn
Senior Manager
วิไลวรรณ น-323-9-9442

Result apply to the company as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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TESTING

Lot ID: 23148168
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874860-1

Source: U.S. Census Bureau.

Remark :

- LOD : Limit of Detection
- "LQ" : Lower limit (LOQ (Limit of Quantitation) / LOR (Limit of Reporting))
- Analyte(s) marked * were not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Dej Changchob
Senior Manager
+66 90 551 3231 or 0844

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TESTING

Lot ID: 23148201
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875490-1

2006.11.14

Remarks:

- LOD = Limit of Detection
- "LQ" = Level Near LOQ (Limit of Quantization) / LQR (Limit of Reporting)
- Analyte(s) marked "x" refers not included in scope of Accreditation ISO/IEC 17025.

The laboratory has been assessed as an accredited laboratory complying with the ISO/IEC 17025

Dej Changchon
Senior Manager

Life-Span Development

www.absolute.com

7. SOLUTIONS: MICHAEL B. BENTON



TESTING

Lot ID: 23148203
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 3875494-1

Appendix 2

- LOD = Limit of Detection
- "n" = Lower than LOQ (Limit of Quantization) / LOR (Limit of Reporting)
- Analyte(s) detected = 4 mg/L (detected in 5 mg/L of Acetaminophen DQ/REC 17025)

The laboratory has been accredited as an Accredited Laboratory (see link with this DQ/REC 17025)

Dej Changchon
Senior Manager

3.1.1.1. Substrate

www.electrical.com

RIGHT SOLUTIONS RIGHT PARTS



TESTING

Lot ID: 23148152
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 7874856-1

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Remarks:

- LOD: Limit of Detection
- "x" : Lower than LOD (Limit of Quantization) / LOQ (Limit of Reporting)
- Analyte(s) marked "P" all are not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accredited as an accredited laboratory complying with the [ACQ/EC 17025](#)

Dej Changchou
Senior Manager

11. *Journal of the American Medical Association*, 277, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674,

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Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148225
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874904-1

Page 1 of 1

Sample Number : 23148225-1
Sampled Date : Jan 11, 2024 11:05 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2565 Plot : 2-59G SRe : FES International Co., Ltd.
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	65.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	8	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *		-		7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattayakun วิจัยอุตสาหกรรม 3-323-9-9476

Remark :
LOD : Limit of Detection
"x" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
Analytical method : Value not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :

N. Banthong

Narumon Banthongkij
Supervisor
วิจิตรธรรม 3-323-9-9445

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรธรรม 3-323-9-9442

Notice: BOD is the sample(s) is submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

ADDRESS 816/10 Moo 5 T. Maeng Yua A. Phakdangrayong 21140 Thailand PHONE +66 2 324 8555 FAX +66 2 324 8556

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6 (Waste), 81 (Q) and (L) (PPE)



Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148223
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874899-1

Page 1 of 1

Sample Number : 23148223-1
Sampled Date : Jan 11, 2024 3:29 PM
Sample Description : Wastewater
Contract ID : L_CIE_018_2558 Plot : 2-66 SRe : Finto Global Industry Co., Ltd.
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	16.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *		-		8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattayakun วิจัยอุตสาหกรรม 3-323-9-9476

Remark :
LOD : Limit of Detection
"x" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
Analytical method : Value not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :

N. Banthong

Narumon Banthongkij
Supervisor
วิจิตรธรรม 3-323-9-9445

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรธรรม 3-323-9-9442

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6 (Waste), 81 (Q) and (L) (PPE)



Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148177
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875450-1

Page 1 of 1

Sample Number : 23148177-1
Sampled Date : Jan 11, 2024 10:15 AM
Sample Description : Wastewater
Contract ID : L_CIE_011_2558 Plot : B-6 SRe : FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD
Location : วัฒนา เมืองใหม่ วัฒนา เมืองใหม่
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	10.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *		-		8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai วิจัยอุตสาหกรรม 3-323-9-9476

Remark :
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Analytical method : Value not included in scope of Accreditation ISO/IEC 17025
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Technical Management :

N. Banthong

Narumon Banthongkij
Supervisor
วิจิตรธรรม 3-323-9-9445

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรธรรม 3-323-9-9442

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Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148233
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875528-1

Page 1 of 1

Sample Number : 23148233-1
Sampled Date : Jan 12, 2024 11:25 AM
Sample Description : Wastewater
Contract ID : L_CIE_011_2557 Plot : D-1 SRe : FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD
Location : REIT
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	25.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	3	11.8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *		-		7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai วิจัยอุตสาหกรรม 3-323-9-9476

Remark :
LOD : Limit of Detection
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Analytical method : Value not included in scope of Accreditation ISO/IEC 17025
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Technical Management :

N. Banthong

Narumon Banthongkij
Supervisor
วิจิตรธรรม 3-323-9-9445

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรธรรม 3-323-9-9442

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148170
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874865-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148170-1						
Sampled Date	Jan 12, 2024 11:15 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_014_2557	Plot	D-2	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD (REIT)		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	21.9	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G	Raying
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanast Wongachai นิสิตวณิช ๖323-๖9460

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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
นิธินวณิช ๖323-๖9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
นิธินวณิช ๖323-๖9442

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148173
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2865052-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148173-1						
Sampled Date	Jan 12, 2024 10:45 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_014_2558	Plot	D-6	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD (REIT)		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards: (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	34.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G	Rayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanast Wongachai นิสิตวณิช ๖323-๖9460, Tanasorn Namkinnak นิสิตวณิช ๖324-๖592

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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
นิธินวณิช ๖323-๖9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
นิธินวณิช ๖323-๖9442

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148242
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875543-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148242-1						
Sampled Date	Jan 12, 2024 11:00 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_013_2558	Plot	D-7	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD (REIT)		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	12.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G	Raying
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanast Wongachai นิสิตวณิช ๖323-๖9460

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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
นิธินวณิช ๖323-๖9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
นิธินวณิช ๖323-๖9442

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148214
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874857-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148214-1						
Sampled Date	Jan 12, 2024 10:57 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_014_2558	Plot	D-8	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD (REIT)		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G	Raying
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanast Wongachai นิสิตวณิช ๖323-๖9460

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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
นิธินวณิช ๖323-๖9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
นิธินวณิช ๖323-๖9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148187
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875464-1

Page 1 of 1

Sample Number	23148187-1						
Sampled Date	Jan 11, 2024 1:55 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_009_2556	Plot	2-13	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	27.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central
wastewater Treatment Plant
Sampling By : Paramet Sattayakun มัคคุเทศน์ รวบรวม - 323-9-945

Remark :
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Technical Management : N. Bangnit
Narumon Banchoengkit
Supervisor
มัคคุเทศน์ รวบรวม - 323-9-945

Approved by : D. Chumpon
Dej Chumpon
Senior Manager
มัคคุเทศน์ รวบรวม - 323-9-945

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148189
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875467-2

Page 1 of 1

Sample Number	23148189-1						
Sampled Date	Jan 11, 2024 1:30 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_009_2556	Plot	2-16-17	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	12.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central
wastewater Treatment Plant
Sampling By : Paramet Sattayakun มัคคุเทศน์ รวบรวม - 323-9-945

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Technical Management : N. Bangnit
Narumon Banchoengkit
Supervisor
มัคคุเทศน์ รวบรวม - 323-9-945

Approved by : D. Chumpon
Dej Chumpon
Senior Manager
มัคคุเทศน์ รวบรวม - 323-9-945

ADDRESS 616/10 Moo 8 T. Maeng Kho A. Phakding Rayong 21140 Thailand : PHONE +66 0 3304 8555 : FAX +66 0 3304 8556
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148211
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874830-1

Page 1 of 1

Sample Number	23148211-1						
Sampled Date	Jan 11, 2024 10:25 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE_011_2560	Plot	B-7	Site	Gory Winner (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	84.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central
wastewater Treatment Plant
Sampling By : Paramet Sattayakun มัคคุเทศน์ รวบรวม - 323-9-945

Remark :
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Technical Management : N. Bangnit
Narumon Banchoengkit
Supervisor
มัคคุเทศน์ รวบรวม - 323-9-945

Approved by : D. Chumpon
Dej Chumpon
Senior Manager
มัคคุเทศน์ รวบรวม - 323-9-945

ADDRESS 616/10 Moo 8 T. Maeng Kho A. Phakding Rayong 21140 Thailand : PHONE +66 0 3304 8555 : FAX +66 0 3304 8556
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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148169
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874862-1

Page 1 of 1

Sample Number	23148169-1						
Sampled Date	Jan 12, 2024 2:55 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_009_2550	Plot	H-1	Site	Gow JPP Co., Ltd.		
Location	Office						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	16.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	2.1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central
wastewater Treatment Plant
Sampling By : Taned Wongsakul มัคคุเทศน์ รวบรวม - 323-9-945

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Technical Management : N. Bangnit
Narumon Banchoengkit
Supervisor
มัคคุเทศน์ รวบรวม - 323-9-945

Approved by : D. Chumpon
Dej Chumpon
Senior Manager
มัคคุเทศน์ รวบรวม - 323-9-945

ADDRESS 616/10 Moo 8 T. Maeng Kho A. Phakding Rayong 21140 Thailand : PHONE +66 0 3304 8555 : FAX +66 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148210
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874821-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	23148210-1						
Sample Date	Jan 05, 2024 9:17 AM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	BC	Site Hardware King Co., Ltd.			
	CIE1, 010, 2563						
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, a lot of solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai วิเศษวาทย์ 323-9-9460

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Technical Management:

N. Banthongkit

Approved by

D. Chongkham

Nanamon Banthongkit
Supervisor
วิเศษวาทย์ 323-9-9465

Daj Chongkham
Senior Manager
วิเศษวาทย์ 323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148252
Date Received : Jan 12, 2024
Date Reported : Jan 16, 2024
Report Number : 28751513-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	23148252-1						
Sample Date	Jan 12, 2024 9:55 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_2350	Plot	B-1	Site Honey Well Electronic Materials (Thailand) Co., Ltd.			
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply by pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOB)				
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				6.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	772	≤3500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5540 C	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai วิเศษวาทย์ 323-9-9460, Pattaporn Sawangjittum วิเศษวาทย์ 323-9-9442

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Technical Management:

N. Banthongkit

Approved by

D. Chongkham

Nanamon Banthongkit
Supervisor
วิเศษวาทย์ 323-9-9465

Daj Chongkham
Senior Manager
วิเศษวาทย์ 323-9-9442

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Analysis / Test Report



TESTING
No.0009

Lot ID: 23148252
Date Received : Jan 12, 2024
Date Reported : Jan 16, 2024
Report Number : 28751513-2

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	23148252-1									
Sample Date	Jan 12, 2024 9:55 AM									
Sample Description	Wastewater									
Contract ID	L_CIE, 011, 2550	Plot	B-1	Site Honey Well Electronic Materials (Thailand) Co., Ltd.						
Date Analysis Commenced	Jan 12, 2024									
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.									
Physical Property	(APHA / USEPA) Yellow, some odor, solid and no turbid									
Analyte	Unit	LOD	LOQ (LOB)					Result	Guideline / Specification	Method
Metals Testing										
Nickel	mg/L	0.0003	0.0005	0.04	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok			

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai วิเศษวาทย์ 323-9-9460, Pattaporn Sawangjittum วิเศษวาทย์ 323-9-9442

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Technical Management:

Savitree N.

Approved by

Kanokorn Anuk

Savitree Nanthanang
Manager
วิเศษวาทย์ 323-9-9409

Kanokorn Anuk
Senior Manager
วิเศษวาทย์ 323-9-9411

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148213
Date Received : Jan 11, 2024
Date Reported : Jan 16, 2024
Report Number : 2874850-1

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	23148213-1						
Sample Date	Jan 11, 2024 3:30 PM						
Sample Description	Wastewater						
Contract ID	L_WHA CIEL-010_2563 Jan 11, 2024	Plot	2-43	Site (Inmate) (Thailand) Co., Ltd.			
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of colour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	79.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattapattum วิเศษวาทย์ 323-9-9476

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Technical Management:

N. Banthongkit

Approved by

D. Chongkham

Nanamon Banthongkit
Supervisor
วิเศษวาทย์ 323-9-9465

Daj Chongkham
Senior Manager
วิเศษวาทย์ 323-9-9442

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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 23148156
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874920-1

Page 1 of 1

Sample Number	23148156-1						
Sample Date	Jan 05, 2024 10:13 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_012_2550	Plot	A-7	Site	In-Season Foods Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	60.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - D-G	Bayview
Oil & Grease	mg/L	-	8	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bayview
pH (on site) *	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bayview

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai wongachai@r323-n-9460

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Technical Management : N. Banthit
Nanont Banthit
Supervisor
wongachai@r323-n-9445
Approved by : D. Chongchon
Dej Chongchon
Senior Manager
wongachai@r323-n-9442

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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 23148255
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2875003-1

Page 1 of 1

Sample Number	23148255-1						Page 1 of 2
Sample Date	Jan 05, 2024 3:30 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2558	Plot	P-2	Site	Inure Ecology Co., Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	62.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - D-G	Bayang
COD	mg/L	1.3	23	139	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bayang
Oil & Grease	mg/L	-	8	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bayang
pH (on site) *	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bayang
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	8	<5	≤2000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bayang

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai wongachai@r323-n-9460

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Technical Management : N. Banthit
Nanont Banthit
Supervisor
wongachai@r323-n-9445
Approved by : D. Chongchon
Dej Chongchon
Senior Manager
wongachai@r323-n-9442

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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 23148192
Date Received : Jan 11, 2024
Date Reported : Jan 11, 2024
Report Number : 2874972-1

Page 1 of 1

Sample Number	23148192-1						Page 1 of 1
Sample Date	Jan 11, 2024 11:20 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2561	Plot	2-40	Site	ISHWA PROFILES (THAILAND) Co., Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - D-G	Kayong
Oil & Grease	mg/L	-	8	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on-site) *		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai wongachai@r323-n-9460

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Technical Management : N. Banthit
Nanont Banthit
Supervisor
wongachai@r323-n-9445
Approved by : D. Chongchon
Dej Chongchon
Senior Manager
wongachai@r323-n-9442

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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 23148179
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2875003-1

Page 1 of 1

Page 1 of 2

Sample Number	23148179-1						
Sample Date	Jan 05, 2024 11:20 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_012_2560	Plot	B-6E	Site	Jungheonrich Ltd. Truck Co., Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	52.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - D-G	Bayang
Oil & Grease	mg/L	-	8	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bayang
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bayang

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongsachai wongachai@r323-n-9460

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Technical Management : N. Banthit
Nanont Banthit
Supervisor
wongachai@r323-n-9445
Approved by : D. Chongchon
Dej Chongchon
Senior Manager
wongachai@r323-n-9442

Result data to be certified (as certified), unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.
ALS Laboratory Group (Thailand) Limited, 21140 Thailand, Phone: +66 2 3204 8555, Fax: +66 2 3204 8556
ADDRESS 818/10 Moo 5, T. Maeng Kru A. Phakdang Rayong 21140 Thailand, Phone: +66 2 3204 8555, Fax: +66 2 3204 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148245

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 2875462-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Sample Number	23148245-1						
Sampled Date	Jan 11, 2024 2:15 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2561	Plot	2-18	Site	KHONGSARTIWOOD Co., Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	70.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1	Wydewater analysis manual, Environmental Engineering Association of Thailand, 8th ed., 2004	Raying
Oil & Grease	mg/L	—	3	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *		—	—	6.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakorn Wittawatana ๖323-๙446

Remarks :
- LOD : Limit of Detection
- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * value not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management : N. Banthong
Nanorn Banthongk
Supervisor
๖323-๙446

Approved by : D. Chongchom
Dej Chongchom
Senior Manager
๖323-๙442

ADDRESS 61/10 Moo 5 T. Maung Kru A. Phakdang Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148195

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 2875462-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Sample Number	23148195-1						
Sampled Date	Jan 11, 2024 10:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_016_2557	Plot	2-59A	Site	Kinestru Logistics (Thailand) Co.,Ltd.		
Date Analysis Commenced	Jan 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	19.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	—	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *		—	—	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying
Guideline : Specification of the Industrial Estate Authority of Thailand No.76, B.E. 2566 ; Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant							
Sampling By : Paramet Satsayakorn wutthasathorn # 9-233-9-9476							

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakorn Wittawatana ๖323-๙446

Remarks :
- LOD : Limit of Detection
- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management : N. Banthong
Nanorn Banthongk
Supervisor
๖323-๙446

Approved by : D. Chongchom
Dej Chongchom
Senior Manager
๖323-๙442

ADDRESS 61/10 Moo 5 T. Maung Kru A. Phakdang Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148184

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2874972-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Sample Number	23148184-1						
Sampled Date	Jan 05, 2024 2:25 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_25560		Plot	F-1	Site	Khagave (Thailand) Co.,Ltd.	
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	4.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayang
Oil & Grease	mg/l	—	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayang
pH (on site) *		—	—	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayang

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Taisak Wongkajachai ๖323-๙446

Remarks :
- LOD : Limit of Detection
- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management : N. Banthong
Nanorn Banthongk
Supervisor
๖323-๙446

Approved by : D. Chongchom
Dej Chongchom
Senior Manager
๖323-๙442

ADDRESS 61/10 Moo 5 T. Maung Kru A. Phakdang Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148159

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2874824-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Sample Number	23148159-1						
Sampled Date	Jan 05, 2024 10:55 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2556	Plot	B-11C	Site	Kunyama (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	58.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	—	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *		—	—	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Taisak Wongkajachai ๖323-๙446

Remarks :
- LOD : Limit of Detection
- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * value not included in scope of Accreditation ISO/IEC 17025
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Technical Management : N. Banthong
Nanorn Banthongk
Supervisor
๖323-๙446

Approved by : D. Chongchom
Dej Chongchom
Senior Manager
๖323-๙442

ADDRESS 61/10 Moo 5 T. Maung Kru A. Phakdang Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148178

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 285059-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Sample Number	23148178-1						
Sampled Date	Jan 12, 2024 9:35 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_013_2557	Plot	B-68	Site	Kyova SS (Thailand) Co., Ltd.		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	50.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai wongpachai@t323-9-9460

Remarks :
- LOD : Limit of Detection
- "F" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation ISO/IEC 17025
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Technical Management :
Narumon Banjongkitt
Supervisor
โทรศัพท์ 0323-9-9445

Approved by :
Dej Changchorn
Senior Manager
โทรศัพท์ 0323-9-9442

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Analysis / Test Report

TESTING
No.0042

Lot ID: 23148157

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2824821-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Sample Number	23148157-1						
Sampled Date	Jan 12, 2024 3:10 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2554	Plot	A-5/1	Site	Laem Chabang Tank Services Co., Ltd.		
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	12.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai wongpachai@t323-9-9460

Remarks :
- LOD : Limit of Detection
- "F" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :
Narumon Banjongkitt
Supervisor
โทรศัพท์ 0323-9-9445

Approved by :
Dej Changchorn
Senior Manager
โทรศัพท์ 0323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148163

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2874834-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Sample Number	23148163-1						
Sampled Date	Jan 05, 2024 11:17 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2554	Plot	B-7	Site	Lunika Products Asia Co., Ltd.		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<148	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	6.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai wongpachai@t323-9-9460

Remarks :
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Technical Management :
Narumon Banjongkitt
Supervisor
โทรศัพท์ 0323-9-9445

Approved by :
Dej Changchorn
Senior Manager
โทรศัพท์ 0323-9-9442

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Analysis / Test Report

TESTING
No.0042

Lot ID: 23148785

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2875748-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Sample Number	23148785-1						
Sampled Date	Jan 05, 2024 1:40 PM						
Sample Description	Wastewater						
Contract ID	L_WHA_CIE_001_2546	Plot	F-14	Site	HAAX METAL INTERNATIONAL COMPANY LIMITED		
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle; sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	37.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai wongpachai@t323-9-9460

Remarks :
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- "F" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :
Narumon Banjongkitt
Supervisor
โทรศัพท์ 0323-9-9445

Approved by :
Dej Changchorn
Senior Manager
โทรศัพท์ 0323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23148198
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2875486-1

Page 1 of 1

Sample Number : 23148198-1
Sampled Date : Jan 11, 2024 11:15 AM
Sample Description : Wastewater
Contract ID : L_WHA_001_2560 Plot : Z-57 Site : Murtins Ingredients (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pre-treatment - preservation standards.
Physical Property : (APHA / USEPA)
Black, a lot of odour, some solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	300	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O-G	Kayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4300 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Parnet Sattayaporn wtd@waeil.com-323-99406

Remark :
- LOD : Limit of Detection
- "n" : Less than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method : Value not included in scope of Accreditation ISO/IEC 17025.
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkitt

Narumon Banjongkitt
Supervisor
wtd@waeil.com-323-99406

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
wtd@waeil.com-323-99402

Result Note: In the event of a sampling error, the sampling was conducted by ALS. No part of this report may be reproduced or any form without written consent from the laboratory.

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23148238
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875532-1

Page 1 of 1

Sample Number : 23148238-1
Sampled Date : Jan 12, 2024 3:13 PM
Sample Description : Wastewater
Contract ID : L_WHA_001_2560 Plot : K2 Site : NANYONG TERMINAL PUBLIC COMPANY LIMITED
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pre-treatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	35.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O-G	Kayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4300 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Chalmorn Lertsakulchai wtd@waeil.com-323-99461

Remark :
- LOD : Limit of Detection
- "n" : Less than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method : Value not included in scope of Accreditation ISO/IEC 17025.
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkitt

Narumon Banjongkitt
Supervisor
wtd@waeil.com-323-99406

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
wtd@waeil.com-323-99402

Result Note: In the event of a sampling error, the sampling was conducted by ALS. No part of this report may be reproduced or any form without written consent from the laboratory.

ADDRESS 618/10 Moo 5, T. Nangnang Uthai A. Phakdang Bannong 21140 Thailand. PHONE +66 8 3304 8155 - FAX +66 8 3304 8156
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23148175
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2879490-1

Page 1 of 1

Sample Number : 23148175-1
Sampled Date : Jan 05, 2024 10:25 AM
Sample Description : Wastewater
Contract ID : L_WHA_002_2560 Plot : A-8A Site : NPC Mobitec (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pre-treatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	45.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O-G	Kayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				>9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4300 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanant Wongsapach wtd@waeil.com-323-99460

Remark :
- LOD : Limit of Detection
- "n" : Less than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method : Value not included in scope of Accreditation ISO/IEC 17025.
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkitt

Narumon Banjongkitt
Supervisor
wtd@waeil.com-323-99406

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
wtd@waeil.com-323-99402

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042
Lot ID: 23148224
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2879402-1

Page 1 of 1

Sample Number : 23148224-1
Sampled Date : Jan 05, 2024 10:58 AM
Sample Description : Wastewater
Contract ID : L_WHA_001_2560 Plot : B-11D Site : Nakhon Asia (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pre-treatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	42.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4300 - O-G	Kayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4300 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanant Wongsapach wtd@waeil.com-323-99460

Remark :
- LOD : Limit of Detection
- "n" : Less than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management

N. Banjongkitt

Narumon Banjongkitt
Supervisor
wtd@waeil.com-323-99406

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
wtd@waeil.com-323-99402

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TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148254
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874817-1

Page 1 of 1

Sample Number	23148254-1						
Sampled Date	Jan 05, 2024 10:08 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_016_2550						
Location	Factory 1						
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5240 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai วังอู่ชัย 3-323-9-9460
Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
- This laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management : N. Banjongkiet
Approved by : Dej Changphon
Narumon Banjongkiet
Senior Manager
วิบูลย์จันทร์ 3-323-9-9445
Dej Changphon
Senior Manager
วิบูลย์จันทร์ 3-323-9-9442

ADDRESS 616/10 Moo 5 T. Maenam Klu A. Phakdangrayong 21140 Thailand PHONG: +66 0 3504 8555 FAX: +66 0 3504 8558
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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148155
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874818-1

Page 1 of 1

Sample Number	23148155-1						
Sampled Date	Jan 05, 2024 10:04 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_027_2550						
Location	Factory 1						
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	22.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai วังอู่ชัย 3-323-9-9460
Remarks :
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Technical Management : N. Banjongkiet
Approved by : Dej Changphon
Narumon Banjongkiet
Senior Manager
วิบูลย์จันทร์ 3-323-9-9445
Dej Changphon
Senior Manager
วิบูลย์จันทร์ 3-323-9-9442

ADDRESS 616/10 Moo 5 T. Maenam Klu A. Phakdangrayong 21140 Thailand PHONG: +66 0 3504 8555 FAX: +66 0 3504 8558
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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148205
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874818-1

Page 1 of 1

Sample Number	23148205-1						
Sampled Date	Jan 05, 2024 9:58 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2553						
Location	Factory 1						
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	24.4	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai วังอู่ชัย 3-323-9-9460
Remarks :
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Technical Management : N. Banjongkiet
Approved by : Dej Changphon
Narumon Banjongkiet
Senior Manager
วิบูลย์จันทร์ 3-323-9-9445
Dej Changphon
Senior Manager
วิบูลย์จันทร์ 3-323-9-9442

ADDRESS 616/10 Moo 5 T. Maenam Klu A. Phakdangrayong 21140 Thailand PHONG: +66 0 3504 8555 FAX: +66 0 3504 8558
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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 23148180
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874817-1

Page 1 of 1

Sample Number	23148180-1						
Sampled Date	Jan 05, 2024 9:44 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_008_2560						
Location	Factory 1						
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	36.5	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai วังอู่ชัย 3-323-9-9460
Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
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Technical Management : N. Banjongkiet
Approved by : Dej Changphon
Narumon Banjongkiet
Senior Manager
วิบูลย์จันทร์ 3-323-9-9445
Dej Changphon
Senior Manager
วิบูลย์จันทร์ 3-323-9-9442

ADDRESS 616/10 Moo 5 T. Maenam Klu A. Phakdangrayong 21140 Thailand PHONG: +66 0 3504 8555 FAX: +66 0 3504 8558
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TESTING

No.0042

Lot ID: 23148174

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 281482-1

Client : WHA Utilities and Power Public Company Limited
331/5-9 Moo 6, High Way No.331 Road, Tambol Bovin, Amphur Siracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Sample Number : 23148174-1
Sampled Date : Jan 12, 2024 3:00 PM
Sample Description : Wastewater
Contract ID : L_CIE_005_2538 Plot A-5/2 Site Hual Chave Engineering Co., Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	81.1	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				6.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Chaisorn Lertnakhansilha vudavudav@y-323-n-9445

Remarks :
LOD : Limit of Detection
*H : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analytical method * value not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :
N. Banomyit
Narumon Banomyit
Supervisor
vudavudav@y-323-n-9445

Approved by :
Dej Chongchon
Dej Chongchon
Senior Manager
vudavudav@y-323-n-9445

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148208

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 281482-1

Client : WHA Utilities and Power Public Company Limited
331/5-9 Moo 6, High Way No.331 Road, Tambol Bovin, Amphur Siracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Sample Number : 23148208-1
Sampled Date : Jan 11, 2024 11:00 AM
Sample Description : Wastewater
Contract ID : L_WHA_CIE1_004_2563 Plot 2-59H 2-59H Site Redflow (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	49.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Purnet Sattayakun vudavudav@y-323-n-9445

Remarks :
LOD : Limit of Detection
*H : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analytical method * value not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :
N. Banomyit
Narumon Banomyit
Supervisor
vudavudav@y-323-n-9445

Approved by :
Dej Chongchon
Dej Chongchon
Senior Manager
vudavudav@y-323-n-9445

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148197

Date Received : Jan 11, 2024

Date Reported : Jan 18, 2024

Report Number : 281484-1

Client : WHA Utilities and Power Public Company Limited
331/5-9 Moo 6, High Way No.331 Road, Tambol Bovin, Amphur Siracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Sample Number : 23148197-1
Sampled Date : Jan 11, 2024 10:55 AM
Sample Description : Wastewater
Contract ID : L_CIE_003_2561 Plot 2-59 I Site Redflow (Thailand) Limited.
Date Analysis Commenced : Jan 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	199	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Purnet Sattayakun vudavudav@y-323-n-9445

Remarks :
LOD : Limit of Detection
*H : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analytical method * value not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :
N. Banomyit
Narumon Banomyit
Supervisor
vudavudav@y-323-n-9445

Approved by :
Dej Chongchon
Dej Chongchon
Senior Manager
vudavudav@y-323-n-9445

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Analysis / Test Report



TESTING

No.0042

Lot ID: 23148167

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2814858-1

Client : WHA Utilities and Power Public Company Limited
331/5-9 Moo 6, High Way No.331 Road, Tambol Bovin, Amphur Siracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Sample Number : 23148167-1
Sampled Date : Jan 05, 2024 8:25 PM
Sample Description : Wastewater
Contract ID : L_CIE_014_2560 Plot D-12/2A Site S.O. TANK CLEANING TERMINAL Co., Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	76.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongpachal vudavudav@y-323-n-9445

Remarks :
LOD : Limit of Detection
*H : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analytical method * value not included in scope of Accreditation ISO/IEC 17025
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Technical Management :
N. Banomyit
Narumon Banomyit
Supervisor
vudavudav@y-323-n-9445

Approved by :
Dej Chongchon
Dej Chongchon
Senior Manager
vudavudav@y-323-n-9445

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Analysis / Test Report

Client : VHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Srisracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : VMA CIE 1



TESTING

No.0009
Lot ID: 23148234
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875744-3

Page 1 of 1

Sample Number	23148234-1						
Sample Date	Jan 12, 2024 10:15 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2555	Plot	C-5.6	Site	SANG CHAREON EASTERN GALVANIZE CO., LTD		
Date Analysis Commenced	Jan 13, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.45	≤10.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3121 B, 2020	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai , Pattanasri Sawasgittam

Remark :
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- "C" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Approved by

Savitree N.
Savitree Naitang
Manager

ADDRESS 104 Phrakongkarn Rd., Phrakongkarn Bld., Khwaeng Phrakongkarn, Yim Sa Uan, Bangkok 10130 Thailand : PHONE +66 0 2760 5689 : FAX +66 0 2760 5197
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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Srisracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : VMA CIE 1



TESTING

No.0042
Lot ID: 23148186
Date Received : Jan 05, 2024
Date Reported : Jan 18, 2024
Report Number : 2875462-1

Page 2 of 2

Sample Number	23148186-1							Page 2 of 2
Sample Date	Jan 05, 2024 1:31 PM							
Sample Description	Wastewater							
Contract ID	L_CIE_018_2557	Plot	F-15	Site	SET (Thailand) Co., Ltd.			
Date Analysis Commenced	Jan 05, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment + preservation standards (APHA / USEPA)							
Physical Property	Yellow, a lot of odour, solid and turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L		2.0	82.3	≤500	Standard Methods for the Examination of Water and Wastewater; APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G	Kayang	
Oil & Grease	mg/L		1.0	1.0	≤10	Standard Methods for the Examination of Water and Wastewater; APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayang	
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater; APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayang	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai and Sawasgittam 2323-9-9460

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Technical Management

N. Banthit
Narumon Boonchongkit
Supervisor
โทรศัพท์ 9-323-9-9445

Approved by

D. Chongchit
Dej Chongchit
Senior Manager
โทรศัพท์ 9-323-9-9442

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Client : VHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Srisracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : VMA CIE 1



TESTING

No.0042
Lot ID: 23148185
Date Received : Jan 05, 2024
Date Reported : Jan 18, 2024
Report Number : 2874975-1

Page 1 of 1

Sample Number	23148185-1							Page 2 of 2
Sample Date	Jan 05, 2024 2:13 PM							
Sample Description	Wastewater							
Contract ID	L_CIE_017_2557	Plot	F-10	Site	SHINNI KOJI (Thailand) Corporation Limited.			
Date Analysis Commenced	Jan 05, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.							
Physical Property	Yellow, some odour, solid and turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L		2.0	23.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G	Kayang	
Oil & Grease	mg/L			1.0	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayang	
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayang	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai and Sawasgittam 2323-9-9460

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Technical Management

N. Banthit
Narumon Boonchongkit
Supervisor
โทรศัพท์ 9-323-9-9445

Approved by

D. Chongchit
Dej Chongchit
Senior Manager
โทรศัพท์ 9-323-9-9442

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331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Srisracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : VMA CIE 1



TESTING

No.0042
Lot ID: 23148161
Date Received : Jan 11, 2024
Date Reported : Jan 18, 2024
Report Number : 2874828-1

Page 1 of 1

Sample Number	23148161-1							Page 2 of 2
Sample Date	Jan 11, 2024 9:50 AM							
Sample Description	Wastewater							
Contract ID	L_CIE_017_2550	Plot	B-3	Site	Shinni Kojas (Thailand) Co., Ltd.			
Date Analysis Commenced	Jan 11, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards: (APHA / USEPA) Yellow, some odour, a lot of solid and some turbid							
Physical Property								
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L		2.0	36.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G	Kayang	
Oil & Grease	mg/L			1.0	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayang	
pH (on site) *		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayang	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Parand Sattayakorn and Sawasgittam 2323-9-9460

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N. Banthit
Narumon Boonchongkit
Supervisor
โทรศัพท์ 9-323-9-9445

Approved by

D. Chongchit
Dej Chongchit
Senior Manager
โทรศัพท์ 9-323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148165

Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874851-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 23148165-1
Sampled Date : Jan 05, 2024 2:39 PM
Sample Description : Wastewater
Contract ID : L_CIE_018_2550 Plot : D-13/2 Site : Siam Steel Mill Services Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	13.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4.3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongsachai วิวัฒน์วาท ๖323-๖9445

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Technical Management :
N. Banongkit
Narumon Banchoongkit
Supervisor
วิวัฒน์วาท ๖323-๖9445

Approved by :
D. Chongchom
Dej Chongchom
Senior Manager
วิวัฒน์วาท ๖323-๖9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148160

Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874826-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 23148160-1
Sampled Date : Jan 12, 2024 2:20 PM
Sample Description : Wastewater
Contract ID : L_CIE_004_2557 Plot : B-11A Site : SPF (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	34.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongsachai วิวัฒน์วาท ๖323-๖9445

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Technical Management :
N. Banongkit
Narumon Banchoongkit
Supervisor
วิวัฒน์วาท ๖323-๖9445

Approved by :
D. Chongchom
Dej Chongchom
Senior Manager
วิวัฒน์วาท ๖323-๖9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148164

Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874841-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 23148164-1
Sampled Date : Jan 12, 2024 11:10 AM
Sample Description : Wastewater
Contract ID : L_CIE_018_2550 Plot : D-4 Site : Tamei Plus (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	47.2	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongsachai วิวัฒน์วาท ๖323-๖9445

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Technical Management :
N. Banongkit
Narumon Banchoongkit
Supervisor
วิวัฒน์วาท ๖323-๖9445

Approved by :
D. Chongchom
Dej Chongchom
Senior Manager
วิวัฒน์วาท ๖323-๖9442

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TESTING
No.0042

Lot ID: 23148172

Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874871-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 23148172-1
Sampled Date : Jan 05, 2024 2:44 PM
Sample Description : Wastewater
Contract ID : L_CIE_003_2558 Plot : H-3 Site : Tiayin Kienmai Auto Parts (Thailand) Co., Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	79.9	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongsachai วิวัฒน์วาท ๖323-๖9445

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management :
N. Banongkit
Narumon Banchoongkit
Supervisor
วิวัฒน์วาท ๖323-๖9445

Approved by :
D. Chongchom
Dej Chongchom
Senior Manager
วิวัฒน์วาท ๖323-๖9442

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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148246
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874807-1

Page 1 of 1

Sample Number : 23148246-1
Sample Date : Jan 05, 2024 1:45 PM
Sample Description : Wastewater
Contract ID : L_CIE_201_2558 Plot F-13A Site Thai Saen Precision Co., Ltd.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	97.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Rayong
COD	mg/L		1.3	25	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L		3	9	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L		3	388	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L		3	50	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanat Wongsachai มินดาภิเษก > 323-9945

Remark :
- LOD : Limit of Detection
- "x" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * is not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

N. Banthongkiet

Narontorn Banthongkiet
Supervisor
มินดาภิเษก > 323-9945

Approved by

D. Chongchorn

Dij Chongchorn
Senior Manager
มินดาภิเษก > 323-9942

Address 616/11 Moo 6 T. Maung Kru A. Phakding Rayong 2140 Thailand PHONE: +66 0 8304 8555 FAX: +66 0 3304 8186
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107123-0040



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148166
Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874855-1

Page 1 of 1

Sample Number : 23148166-1
Sample Date : Jan 05, 2024 3:15 PM
Sample Description : Wastewater
Contract ID : L_CIE_201_2558 Plot D-12/1A Site THAI ESCORP LTD.
Date Analysis Commenced : Jan 05, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	24.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Rayong
Oil & Grease	mg/L		3	3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanat Wongsachai มินดาภิเษก > 323-9945

Remark :
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Technical Management

N. Banthongkiet

Narontorn Banthongkiet
Supervisor
มินดาภิเษก > 323-9945

Approved by

D. Chongchorn

Dij Chongchorn
Senior Manager
มินดาภิเษก > 323-9942

Address 616/11 Moo 6 T. Maung Kru A. Phakding Rayong 2140 Thailand PHONE: +66 0 8304 8555 FAX: +66 0 3304 8186
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 23148250
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875501-1

Page 1 of 1

Sample Number : 23148250-1
Sample Date : Jan 12, 2024 1:30 PM
Sample Description : Wastewater
Contract ID : L_CIE_201_2559 Plot D-9 Site Thai Huawei Battery Co., Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	<2.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Rayong
COD	mg/L		1.3	75	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L		3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				11.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L		3	234	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L		3	<3	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanat Wongsachai มินดาภิเษก > 323-9945, Pattapong Samwongkiet มินดาภิเษก > 323-9945

Remark :
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Technical Management

N. Banthongkiet

Narontorn Banthongkiet
Supervisor
มินดาภิเษก > 323-9945

Approved by

D. Chongchorn

Dij Chongchorn
Senior Manager
มินดาภิเษก > 323-9942

Address 616/11 Moo 6 T. Maung Kru A. Phakding Rayong 2140 Thailand PHONE: +66 0 8304 8555 FAX: +66 0 3304 8186
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING

No.0009
Lot ID: 23148250
Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2875501-2

Page 1 of 1

Sample Number : 23148250-1
Sample Date : Jan 12, 2024 1:30 PM
Sample Description : Wastewater
Contract ID : L_CIE_201_2559 Plot D-9 Site Thai Huawei Battery Co., Ltd.
Date Analysis Commenced : Jan 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)
Physical Property : Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Lead	mg/L	0.0003	0.0003	0.002	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 B	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanat Wongsachai มินดาภิเษก > 323-9945, Pattapong Samwongkiet มินดาภิเษก > 323-9945

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Technical Management

Sawitree N.

Sarontorn Sawitree
Manager
มินดาภิเษก > 324-9949

Approved by

K. Anuch

Korakorn Anuch
Senior Manager
มินดาภิเษก > 324-9941

Address 104 Phrasathan 40, Phrasathan 40, Krasang Phrasathan, Krasang Suburb, Bangkok 10132 Thailand PHONE: +66 0 2763 3000 FAX: +66 0 2763 3181
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Analysis / Test Report



TESTING
No.0042

Lot ID: 23148183

Date Received : Jan 05, 2024

Date Reported : Jan 11, 2024

Report Number : 2874961-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number	23148183-1					Page 1 of 1
Sampled Date	Jan 05, 2024 1:53 PM					
Sample Description	Wastewater					
Contract ID	L_CIE_001_2552	Plot	P-12	Site	Thai Instant Products Co., Ltd.	
Date Analysis Commenced	Jan 05, 2024					
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)					
Physical Property	Black, a lot of odour, solid and turbid					
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	389	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G
Oil & Grease	mg/L	-	3	9.3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B
pH (on site) *	-	-	-	6.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongchaiwit wongchaiwit@323-9-9465

Remarks :
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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
wongchaiwit@323-9-9465

Approved by

D. Chongchorn

Dej Chongchorn
Senior Manager
wongchaiwit@323-9-9465

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3 (BNA), 14 (BNA) (2 (BNA))



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148237

Date Received : Jan 12, 2024

Date Reported : Jan 16, 2024

Report Number : 2875351-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number	23148237-1					Page 1 of 1
Sampled Date	Jan 12, 2024 2:00 PM					
Sample Description	Wastewater					
Contract ID	L_WHA_CIE1_004_2556	Plot	Z-60,201,2018	Site	THAI OUTDO POWER TECHNOLOGY CO., LTD.	
Date Analysis Commenced	Jan 12, 2024					
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)					
Physical Property	Yellow, some odour, solid and no turbid					
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	25.4	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G
Oil & Grease	mg/L	-	3	4.3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongchaiwit wongchaiwit@323-9-9465

Remarks :
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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
wongchaiwit@323-9-9465

Approved by

D. Chongchorn

Dej Chongchorn
Senior Manager
wongchaiwit@323-9-9465

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3 (BNA), 14 (BNA) (2 (BNA))



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148232

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2874960-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number	23148232-1					Page 1 of 1
Sampled Date	Jan 12, 2024 2:30 PM					
Sample Description	Wastewater					
Contract ID	L_CIE_013_2560	Plot	E-6	Site	Thai Ring Union Car Public Co., Ltd.	
Date Analysis Commenced	Jan 12, 2024					
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)					
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid					
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	149	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G
Oil & Grease	mg/L	-	3	4.3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B
pH (on site) *	-	-	-	8.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasit Wongchaiwit wongchaiwit@323-9-9465

Remarks :
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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
wongchaiwit@323-9-9465

Approved by

D. Chongchorn

Dej Chongchorn
Senior Manager
wongchaiwit@323-9-9465

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3 (BNA), 14 (BNA) (2 (BNA))



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148217

Date Received : Jan 12, 2024

Date Reported : Jan 18, 2024

Report Number : 2874960-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number	23148217-1					Page 1 of 1
Sampled Date	Jan 12, 2024 2:32 PM					
Sample Description	Wastewater					
Contract ID	L_WHA_CIE1_001_2564	Plot	Z-62	Site	THAI WIP CO., LTD.	
Date Analysis Commenced	Jan 12, 2024					
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)					
Physical Property	Yellow, a lot of odour, solid and some turbid					
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	28.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B
pH (on site) *	-	-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Chansorn Lertnontakachai lertnontakachai@323-9-9461

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Technical Management

N. Banchoangkit

Narumon Banchoangkit
Supervisor
wongchaiwit@323-9-9465

Approved by

D. Chongchorn

Dej Chongchorn
Senior Manager
wongchaiwit@323-9-9465

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3 (BNA), 14 (BNA) (2 (BNA))



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148209

Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874825-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331, Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148209-1						
Sample Date	Jan 12, 2024 2:24 PM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	2-550	Site: Ultimate Springs (Thailand) Co.,Ltd.			
	CIE1_006_2543						
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	60.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Raying
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Chaisorn Lertnontakunchai รหัสประจำตัว 9-323-9-9465

Remark :
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Technical Management :
N. Banjongkitt
Narumon Banjongkitt
Supervisor
รหัสประจำตัว 9-323-9-9445

Approved by :
D. Chongkarn
Dej Chongkarn
Senior Manager
รหัสประจำตัว 9-323-9-9442

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10/12/2024 (RM)

3/20/2024, 10:42 AM (J. 10/12/2024)



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148181

Date Received : Jan 05, 2024
Date Reported : Jan 11, 2024
Report Number : 2874948-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331, Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148181-1						
Sample Date	Jan 05, 2024 2:06 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_023_2550	Plot	F-6	Site Van Leeuwen Pipe and Tube (Thailand) Ltd.			
Date Analysis Commenced	Jan 05, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA) (1050)						
Physical Property	Yellow, a lot of odour, solid and some turbid.						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	81.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Raying
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai รหัสประจำตัว 9-323-9-9460

Remark :
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Technical Management :
N. Banjongkitt
Narumon Banjongkitt
Supervisor
รหัสประจำตัว 9-323-9-9445

Approved by :
D. Chongkarn
Dej Chongkarn
Senior Manager
รหัสประจำตัว 9-323-9-9442

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10/12/2024

3/20/2024, 10:42 AM (J. 10/12/2024)



Analysis / Test Report



TESTING
No.0042

Lot ID: 23148230

Date Received : Jan 12, 2024
Date Reported : Jan 18, 2024
Report Number : 2874928-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331, Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	23148230-1						
Sample Date	Jan 12, 2024 9:25 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE1_006_2585	Plot	8-10C	Site : V-SACHET Co.,Ltd.			
Date Analysis Commenced	Jan 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Raying
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai รหัสประจำตัว 9-323-9-9460

Remark :
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Technical Management :
N. Banjongkitt
Narumon Banjongkitt
Supervisor
รหัสประจำตัว 9-323-9-9445

Approved by :
D. Chongkarn
Dej Chongkarn
Senior Manager
รหัสประจำตัว 9-323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2485514

Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2884860-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331, Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number	2485514-1						
Sampled Date	Feb 09, 2024 11:10 AM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	2-55B	Site : AGRI SYRUP BIOESTERY (THAILAND) CO.,LTD.			
	CIE1_006_2564						
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
	(APHA) (USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	38.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Raying
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pathaya Thongsang รหัสประจำตัว 9-323-9-9446

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Technical Management :
N. Banjongkitt
Narumon Banjongkitt
Supervisor
รหัสประจำตัว 9-323-9-9445

Approved by :
D. Chongkarn
Dej Chongkarn
Senior Manager
รหัสประจำตัว 9-323-9-9442

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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 248512
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 289454-1

Page 1 of 1

Sample Number : 248512-1
Sampled Date : Feb 09, 2024 11:28 AM
Sample Description : Wastewater
Contract ID : L_WHA_CIE1_007_2564 Plot : Z-55G Site : AGRI SYRUP INDUSTRY (THAILAND) Co., Ltd.
Date Analysis Commenced : Feb 09, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	4.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Kayong
Oil & Grease	mg/L			≤3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thonglaeng วิศวะสุขาภิบาล 5-323-9-9448

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Technical Management :
N. Banjongkit
Narumon Banjongkit
Supervisor
วิศวะสุขาภิบาล 5-323-9-9448

Approved by :
Dej Changhong
Dej Changhong
Senior Manager
วิศวะสุขาภิบาล 5-323-9-9442

Address 61/67 Moo 5 : T. Maengon Kru A. Phakdang Rang 21140 Thailand : PHONE 468 0 3304 8555 : FAX 468 0 3304 8556
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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 248513
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 289455-1

Page 1 of 1

Sample Number : 248513-1
Sampled Date : Feb 09, 2024 11:25 AM
Sample Description : Wastewater
Contract ID : L_WHA_CIE1_007_2564 Plot : Z-55H Site : AGRI SYRUP INDUSTRY (THAILAND) Co., Ltd.
Date Analysis Commenced : Feb 09, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	32.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Kayong
Oil & Grease	mg/L			≤3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				6.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thonglaeng วิศวะสุขาภิบาล 5-323-9-9448

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Technical Management :
N. Banjongkit
Narumon Banjongkit
Supervisor
วิศวะสุขาภิบาล 5-323-9-9448

Approved by :
Dej Changhong
Dej Changhong
Senior Manager
วิศวะสุขาภิบาล 5-323-9-9442

Address 61/67 Moo 5 : T. Maengon Kru A. Phakdang Rang 21140 Thailand : PHONE 468 0 3304 8555 : FAX 468 0 3304 8556
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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 248520
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894872-1

Page 1 of 1

Sample Number : 248520-1
Sampled Date : Feb 08, 2024 2:25 PM
Sample Description : Wastewater
Contract ID : L_WHA_CIE1_004_2564 Plot : Z-56B Site : AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	66.9	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Kayong
Oil & Grease	mg/L			≤1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thonglaeng วิศวะสุขาภิบาล 5-323-9-9448

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Technical Management :
N. Banjongkit
Narumon Banjongkit
Supervisor
วิศวะสุขาภิบาล 5-323-9-9448

Approved by :
Dej Changhong
Dej Changhong
Senior Manager
วิศวะสุขาภิบาล 5-323-9-9442

Address 61/67 Moo 5 : T. Maengon Kru A. Phakdang Rang 21140 Thailand : PHONE 468 0 3304 8555 : FAX 468 0 3304 8556
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Thailand 20230
P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

Lot ID: 248522
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894998-1

Page 1 of 1

Sample Number : 248522-1
Sampled Date : Feb 08, 2024 2:29 PM
Sample Description : Wastewater
Contract ID : L_CIE_007_2560 Plot : Z-59D Site : AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	19.3	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Kayong
Oil & Grease	mg/L			2	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thonglaeng วิศวะสุขาภิบาล 5-323-9-9448

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N. Banjongkit
Narumon Banjongkit
Supervisor
วิศวะสุขาภิบาล 5-323-9-9448

Approved by :
Dej Changhong
Dej Changhong
Senior Manager
วิศวะสุขาภิบาล 5-323-9-9442

Address 61/67 Moo 5 : T. Maengon Kru A. Phakdang Rang 21140 Thailand : PHONE 468 0 3304 8555 : FAX 468 0 3304 8556
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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 248511
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894851-1

Page 1 of 1

Sample Number	248511-1						
Sampled Date	Feb 09, 2024 11:21 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CHE_005_2564	Plot	C-01	Site	ATEN COMPUTER PRODUCT Co.,Ltd.		
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	24.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - G-G	Rayong
Oil & Grease	mg/L		3	19	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong วิสุธรรมวิทย์ >323-9-0011

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Technical Management

N. Bangnit

Approved by

D. Chongchong

Narumon Banchoengkit
Supervisor
วิสุธรรมวิทย์ >323-9-9445

Dej Chongchong
Senior Manager
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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 248474
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894666-1

Page 1 of 1

Sample Number	248474-1							Page 2 of 8
Sampled Date	Feb 07, 2024 2:36 PM							
Sample Description	Wastewater							
Contract ID	L_CIE_001_2550	Plot	F-11	Site	Aul Theng Co.,Ltd.			
Date Analysis Commenced	Feb 07, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)							
Physical Property	Colorless, some odour, no solid and turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.1	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Rayong	
Oil & Grease	mg/L	-	3	4.1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong	
pH (on site) *				7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong วิสุธรรมวิทย์ >323-9-0011

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Technical Management

N. Bangnit

Approved by

D. Chongchong

Narumon Banchoengkit
Supervisor
วิสุธรรมวิทย์ >323-9-9445

Dej Chongchong
Senior Manager
วิสุธรรมวิทย์ >323-9-9442

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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 248553
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894760-1

Page 1 of 2

Sample Number	248553-1						
Sampled Date	Feb 09, 2024 10:17 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2550	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	37.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 - G-G	Rayong
CO2	mg/L	-	3.5	25	≤750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 D	Rayong
Color (at Original pH)	APHA	-	8	70	≤600	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	APHA	-	8	67	≤600	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Cegree C	-	-	28.8	≤45	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2560 C	Rayong
Total Dissolved Solids Dried at 180 Degree C	mg/L	-	5	308	≤7000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

N. Bangnit

Approved by

D. Chongchong

Narumon Banchoengkit
Supervisor
วิสุธรรมวิทย์ >323-9-9445

Dej Chongchong
Senior Manager
วิสุธรรมวิทย์ >323-9-9442

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0000001, 01, 01, 01 (12/2019)



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING

No.0042
Lot ID: 248553
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894760-1

Page 2 of 2

Sample Number	248553-1							Page 2 of 2
Sampled Date	Feb 09, 2024 10:17 AM							
Sample Description	Wastewater							
Contract ID	L_CIE_002_2550	Plot	A	Site	B. Green Power (WHA) 1 Limited.			
Location	Office							
Date Analysis Commenced	Feb 09, 2024							
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)							
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	87.0	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), pH 10.0 (B)	Rayong	
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	28	≤200	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narapong วิสุธรรมวิทย์ >323-9-0011

Remark :
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- "<" : Lower than LOD (Limit of Quantitation) / (LOQ) (Limit of Reporting)
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Technical Management

N. Bangnit

Approved by

D. Chongchong

Narumon Banchoengkit
Supervisor
วิสุธรรมวิทย์ >323-9-9445

Dej Chongchong
Senior Manager
วิสุธรรมวิทย์ >323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248553
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894760-2

Page 1 of 1

Sample Number	248553-1						
Sampled Date	Feb 09, 2024 10:17 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2559	Plot	A	Site	B. Grimm Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Flow rate	m3/s	-	-	0.000	No Standard	Flow meter	Raying
Odour				Odour	Non Objectable	TTS: 257-2549	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong

Remark :
- LOD : Limit of Detection
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Approved by

N. Banthit

Narumon Banthongkit
Supervisor

ADDRESS 615/10 Moo 5 T. Maenam Khu A. Phukdaeng Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

TESTING
No.0042
Lot ID: 248554
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894762-1

Page 1 of 2

Sample Number	248554-1		
Sampled Date	Feb 09, 2024 10:15 AM		
Sample Description	Wastewater		
Contract ID	L_CIE_003_2559	Plot	A
Location	Process		
Date Analysis Commenced	Feb 09, 2024		
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / US EPA)		
Physical Property	Yellow, some odour, solid and turbid		

Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	4.0	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Raying
COD	mg/L	3.5	25	40	≤750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Raying
Color (at Original pH)	ADME		5	8	≤600	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Raying
Color (at pH 7.0)	ADME		5	7	≤600	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Raying
Oil & Grease	mg/L		3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying
Residual Free Chlorine *	mg/L		0.1	<0.1	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - (F)	Raying
Temperature *	Degree C			36.5	≤45	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Raying

Technical Management

N. Banthit

Narumon Banthongkit
Supervisor
โทรสาร 468 0 3323 9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
โทรสาร 468 0 3323 9442

ADDRESS 615/10 Moo 5 T. Maenam Khu A. Phukdaeng Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

TESTING
No.0042
Lot ID: 248554
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894762-1

Page 2 of 2

Sample Number	248554-1						
Sampled Date	Feb 09, 2024 10:15 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2559		Plot	A	Site	B. Grimm Power (WHA) 1 Limited.	
Location	Process						
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / US EPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 Degree C	mg/L	✓	5	1540	≤3000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Kayong
Total Kjeldahl Nitrogen as N	mg/L	✓	1.0	1.8	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO ₃ (C) part NHD (D)	Kayong
Total Suspended Solids Dried at 103-105 Degree C	mg/L	✓	5	18	≤200	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong โทรสาร 468 0 3323 9441

Remark :
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Technical Management

N. Banthit

Narumon Banthongkit
Supervisor
โทรสาร 468 0 3323 9445

Approved by

D. Chongthong

Dej Chongthong
Senior Manager
โทรสาร 468 0 3323 9442

ADDRESS 615/10 Moo 5 T. Maenam Khu A. Phukdaeng Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248554
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894762-2

Page 1 of 1

Sample Number	248554-1		
Sampled Date	Feb. 09, 2024 10:15 AM		
Sample Description	Wastewater		
Contract ID	L_CIE_003_2559	Plot	A
Location	Process		
Date Analysis Commenced	Feb 09, 2024		
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)		
Physical Property	Yellow, some odour, solid and turbid		

Water Testing							
Flow rate	m ³ /s			0.017	No Standard	Flow meter	Raying
Odour				Odourless	Non Objectable	TSS: 257-2549	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong

Remark :
- LOD : Limit of Detection
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Approved by

N. Banthit

Narumon Banthongkit
Supervisor

ADDRESS 615/10 Moo 5 T. Maenam Khu A. Phukdaeng Raying 21140 Thailand PHONE 468 0 3304 8555 FAX 468 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248509
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894845-1

Page 1 of 1

Sample Number	248509-1						
Sample Date	Feb 07, 2024 11:51 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE1_002_2504	Plot	B6-A	Site	ENR Limited		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	10.7	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong วิสุวณานนท์ 323-4-0011

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method : value not included in scope of Accreditation (ISO/IEC 17025)
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management :
N. Banthongk
Narumon Banthongk
Supervisor
วิสุวณานนท์ 323-4-9445

Approved by :
D. Chongch
Dej Chongch
Senior Manager
วิสุวณานนท์ 323-4-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248528
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894912-1

Page 1 of 1

Sample Number	248528-1						
Sample Date	Feb 07, 2024 10:45 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE1_002_2566	Plot	A-08B	Site	FABRINET COMPANY LIMITED		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	50.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong วิสุวณานนท์ 323-4-0011

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Technical Management :
N. Banthongk
Narumon Banthongk
Supervisor
วิสุวณานนท์ 323-4-9445

Approved by :
D. Chongch
Dej Chongch
Senior Manager
วิสุวณานนท์ 323-4-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248444
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894571-1

Page 1 of 1

Sample Number	248444-1						
Sample Date	Feb 07, 2024 10:15 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2557	Plot	A-2	Site	Fetol Manufacturing Co., Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	104	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Suravit Narapong วิสุวณานนท์ 323-4-0011

Remark :
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Technical Management :
N. Banthongk
Narumon Banthongk
Supervisor
วิสุวณานนท์ 323-4-9445

Approved by :
D. Chongch
Dej Chongch
Senior Manager
วิสุวณานนท์ 323-4-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248529
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894914-1

Page 1 of 1

Sample Number	248529-1						
Sample Date	Feb 08, 2024 2:31 PM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE1_003_2566	Plot	7-50E	Site	FES & KAYSON ELECTRONICS Co., Ltd.		
Date Analysis Commenced	Feb 08, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Colorless, odorless, some solid and no turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thengsarn วิสุวณานนท์ 323-4-9446

Remark :
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Technical Management :
N. Banthongk
Narumon Banthongk
Supervisor
วิสุวณานนท์ 323-4-9445

Approved by :
D. Chongch
Dej Chongch
Senior Manager
วิสุวณานนท์ 323-4-9442

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5 (PML), AL, 20, 19 (PML)



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Lot ID: 248492
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894721-1

Page 1 of 1

Sample Number : 248492-1
Sample Date : Feb 06, 2024 2:40 PM
Sample Description : Wastewater
Contract ID : L_WHA_CIE_002_2558 Plot : 2-59E Site : PES International (Thailand) Co., Ltd.
Date Analysis Commenced : Feb 06, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	77.5	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng วิษณุวัฒน์ v-323-n-9446

Remark :
- LOD : Limit of Detection
- "C" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banongkiet

Narumon Banchoongkiet
Supervisor
วิษณุวัฒน์ v-323-n-9446

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิษณุวัฒน์ v-323-n-9446

Result made in the laboratory as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

ADDRESS 616/10 Moo 5, T. Maeng Kho A, Phakding Rayong 21140 Thailand. PHONE +66 0 3304 8155 / FAX +66 0 3304 8156
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Lot ID: 248518
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894866-1

Page 1 of 1

Sample Number : 248518-1
Sample Date : Feb 06, 2024 2:46 PM
Sample Description : Wastewater
Contract ID : L_WHA_CIE_002_2558 Plot : 2-59G Site : PES International Co., Ltd.
Date Analysis Commenced : Feb 06, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	53.4	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	4.2	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng วิษณุวัฒน์ v-323-n-9446

Remark :
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- "C" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
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Technical Management

N. Banongkiet

Narumon Banchoongkiet
Supervisor
วิษณุวัฒน์ v-323-n-9446

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิษณุวัฒน์ v-323-n-9446

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Lot ID: 248516
Date Received : Feb 06, 2024
Date Reported : Feb 15, 2024
Report Number : 2894863-1

Page 1 of 1

Sample Number : 248516-1
Sample Date : Feb 06, 2024 2:15 PM
Sample Description : Wastewater
Contract ID : L_CIE_011_2558 Plot : 2-66 Site : Inter Global Industry Co., Ltd.
Date Analysis Commenced : Feb 06, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	20.5	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng วิษณุวัฒน์ v-323-n-9446

Remark :
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Technical Management

N. Banongkiet

Narumon Banchoongkiet
Supervisor
วิษณุวัฒน์ v-323-n-9446

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิษณุวัฒน์ v-323-n-9446

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Lot ID: 248468
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894654-1

Page 1 of 1

Sample Number : 248468-1
Sample Date : Feb 06, 2024 10:38 AM
Sample Description : Wastewater
Contract ID : L_CIE_011_2558 Plot : B-6 Site : FRASERS PROPERTY (THAILAND) PUBLIC COMPANY LIMITED
Date Analysis Commenced : Feb 06, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	46.9	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng วิษณุวัฒน์ v-323-n-9446

Remark :
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- "C" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
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Technical Management

N. Banongkiet

Narumon Banchoongkiet
Supervisor
วิษณุวัฒน์ v-323-n-9446

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิษณุวัฒน์ v-323-n-9446

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248535
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894920-1

Page 1 of 1

Sample Number	248535-1						
Sampled Date	Feb 08, 2024 11:39 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_2556	Plot	D-7	Site	FRASERS PROPERTY (THAILAND) PUBLIC COMPANY LIMITED		
Date Analysis Commenced	Feb 08, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	13.1	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thongtongwong mduwara@v-323-n-9448

Remark :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation ISO/IEC 17025.
The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management
Narumon Banchoongkiet
Supervisor
mduwara@v-323-n-9448

Approved by
Dej Changchong
Senior Manager
mduwara@v-323-n-9442

Please apply to the laboratory if submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced or any form without written consent from the laboratory.

ADDRESS 616/10 Moo 5 T. Maenam Klu A. Phraklang Rayong 21140 Thailand : PHONE +66 0 3304 8551 FAX +66 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248507
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894842-1

Page 1 of 1

Sample Number	248507-1						
Sampled Date	Feb 08, 2024 11:36 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_014_2556	Plot	D-8	Site	FRASERS PROPERTY (THAILAND) PUBLIC COMPANY LIMITED		
Date Analysis Commenced	Feb 08, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	29.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4.3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thongtongwong mduwara@v-323-n-9448

Remark :
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Technical Management
Narumon Banchoongkiet
Supervisor
mduwara@v-323-n-9448

Approved by
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248526
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894900-1

Page 1 of 1

Sample Number	248526-1						
Sampled Date	Feb 08, 2024 12:09 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_2557	Plot	D-1	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT		
Date Analysis Commenced	Feb 08, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	21.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thongtongwong mduwara@v-323-n-9446

Remark :
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Approved by
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mduwara@v-323-n-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Lot ID: 248461
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894542-1

Page 1 of 1

Sample Number	248461-1						
Sampled Date	Feb 08, 2024 11:53 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_010_2557	Plot	D-2	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT		
Date Analysis Commenced	Feb 08, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	27.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	8.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pethaya Thongtongwong mduwara@v-323-n-9446

Remark :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
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Approved by
Dej Changchong
Senior Manager
mduwara@v-323-n-9442

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Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248464
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894648-1

Page 1 of 1

Sample Number : 248464-1
Sample Date : Feb 08, 2024 11:25 AM
Sample Description : Wastewater
Contract ID : L_CIE_004_2556 Plot : D-6 Site : FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odor, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	40.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				7.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thonglaeng (ผู้ตรวจสอบ) : 323-9-9448

Remark :
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Technical Management

N. Banomyit

Narumon Banomyit
Supervisor
โทรศัพท์ : 323-9-9448

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรศัพท์ : 323-9-9442

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3 (Phonem) AL, AL, AL (4-2025)



Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248479
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894649-1

Page 1 of 1

Sample Number : 248479-1
Sample Date : Feb 08, 2024 3:14 PM
Sample Description : Wastewater
Contract ID : L_CIE_007_2556 Plot : D-13 Site : FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odor, solid and some turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		7.0	74.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thonglaeng (ผู้ตรวจสอบ) : 323-9-9448

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Technical Management

N. Banomyit

Narumon Banomyit
Supervisor
โทรศัพท์ : 323-9-9448

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรศัพท์ : 323-9-9442

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Analysis / Test Report



TESTING

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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248481
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894649-1

Page 1 of 1

Sample Number : 248481-1
Sample Date : Feb 08, 2024 3:08 PM
Sample Description : Wastewater
Contract ID : L_CIE_005_2556 Plot : D-16-17 Site : FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, some odor, a lot of solid and some turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	40.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thonglaeng (ผู้ตรวจสอบ) : 323-9-9448

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Technical Management

N. Banomyit

Narumon Banomyit
Supervisor
โทรศัพท์ : 323-9-9448

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรศัพท์ : 323-9-9442

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Analysis / Test Report



TESTING

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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248504
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894649-1

Page 1 of 1

Sample Number : 248504-1
Sample Date : Feb 08, 2024 10:44 AM
Sample Description : Wastewater
Contract ID : L_WHA_CIE1_011_2563 Plot : D-7 Site : Glory Winner (Thailand) Co., Ltd.
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odor, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	38.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				9.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thonglaeng (ผู้ตรวจสอบ) : 323-9-9448

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N. Banomyit

Narumon Banomyit
Supervisor
โทรศัพท์ : 323-9-9448

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรศัพท์ : 323-9-9442

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Analysis / Test Report

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Thailand 20239

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 248552
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894757-2

Page 1 of 1

Sample Number : 248552-1
Sample Date : Feb 09, 2024 16:43 AM
Sample Description : Wastewater
Contract ID : L_CIE_011_2550 Plot : B-1 Site : Honey Well Electronic Materials (Thailand) Co., Ltd.
Date Analysis Commenced : Feb 12, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	6.19	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 B	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant
Sampling By : Surasit Narapong วิสุธรรมารักษ์ 323-9-0011, Pattarapol Sawangjarn วิสุธรรมารักษ์ 323-9-0002

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Technical Management

Channatt L.

Charattaporn Inthorn
Senior Manager
วิสุธรรมารักษ์ 323-9-8710

Approved by

Kanokorn Anuk

Kanokorn Anuk
Senior Manager
วิสุธรรมารักษ์ 323-9-6111

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Analysis / Test Report

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Thailand 20239

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248506
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894839-1

Page 1 of 1

Sample Number : 248506-1
Sample Date : Feb 09, 2024 3:10 PM
Sample Description : Wastewater
Contract ID : L_WHA_CIE_015_2550 Plot : 2-61 Site : Inmatek (Thailand) Co., Ltd.
Date Analysis Commenced : Feb 09, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	37.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Bangkok
Oil & Grease	mg/L	-	3	13	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH (on site) *		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant
Sampling By : Pithaya Thongtaeng วิสุธรรมารักษ์ 323-9-9446

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Technical Management

N.Banyat

Narumon Banchoongkit
Supervisor
วิสุธรรมารักษ์ 323-9-9445

Approved by

D.Chanong

Dej Chanong
Senior Manager
วิสุธรรมารักษ์ 323-9-9442

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Analysis / Test Report

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Thailand 20239

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248447
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894590-1

Page 1 of 1

Sample Number : 248447-1
Sample Date : Feb 07, 2024 16:36 AM
Sample Description : Wastewater
Contract ID : L_CIE_012_2550 Plot : A-2 Site : In-Saxon Foods Ltd.
Date Analysis Commenced : Feb 07, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	47.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Bangkok
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH (on site) *		-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant
Sampling By : Surasit Narapong วิสุธรรมารักษ์ 323-9-0011

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Technical Management

N.Banyat

Narumon Banchoongkit
Supervisor
วิสุธรรมารักษ์ 323-9-9445

Approved by

D.Chanong

Dej Chanong
Senior Manager
วิสุธรรมารักษ์ 323-9-9442

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Thailand 20239

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248550
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894753-1

Page 1 of 1

Sample Number : 248550-1
Sample Date : Feb 08, 2024 11:35 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot : H-2 Site : Insee Ecosyle Co., Ltd.
Date Analysis Commenced : Feb 08, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	13.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Bangkok
COD	mg/L	1.5	18	87	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
Oil & Grease	mg/L	-	3	13	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH (on site) *		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok
Total Suspended Solids Dried at 103-105 Degree C	mg/L	-	5	8	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant
Sampling By : Pithaya Thongtaeng วิสุธรรมารักษ์ 323-9-9446

Remark :
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Technical Management

N.Banyat

Narumon Banchoongkit
Supervisor
วิสุธรรมารักษ์ 323-9-9445

Approved by

D.Chanong

Dej Chanong
Senior Manager
วิสุธรรมารักษ์ 323-9-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 248484
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894701-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248484-1						
Sampled Date	Feb 06, 2024 2:59 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2561	Plot	2-40	Site	ISHWAR PROFILES (THAILAND) Co.,Ltd.		
Date Analysis Commenced	Feb 06, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Black, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	37.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng นพิตินา นพิตินา 323-9-9448

Remarks :
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Technical Management :
Narumon Banchoengk
Supervisor
นพิตินา นพิตินา 323-9-9448

Approved by :
Dej Changchon
Senior Manager
นพิตินา นพิตินา 323-9-9448

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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 248539
Date Received : Feb 06, 2024
Date Reported : Feb 15, 2024
Report Number : 2894701-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248539-1						
Sampled Date	Feb 06, 2024 3:31 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2561	Plot	2-18	Site	KHONSANG ARTWOOD Co.,Ltd.		
Date Analysis Commenced	Feb 06, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 19th ed., 2004	Raying
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng นพิตินา นพิตินา 323-9-9448

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management :
Narumon Banchoengk
Supervisor
นพิตินา นพิตินา 323-9-9448

Approved by :
Dej Changchon
Senior Manager
นพิตินา นพิตินา 323-9-9448

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 248487
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894714-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248487-1						
Sampled Date	Feb 06, 2024 2:17 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_016_2557	Plot	2-09A	Site	KVessu Logistics (Thailand) Co.,Ltd.		
Date Analysis Commenced	Feb 06, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	35.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng นพิตินา นพิตินา 323-9-9448

Remarks :
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Technical Management :
Narumon Banchoengk
Supervisor
นพิตินา นพิตินา 323-9-9448

Approved by :
Dej Changchon
Senior Manager
นพิตินา นพิตินา 323-9-9448

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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 248476
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894672-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248476-1						
Sampled Date	Feb 07, 2024 2:34 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_013_2550	Plot	F-1	Site	Kitapawa (Thailand) Co.,Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Colorless, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	7.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	-	3	0.8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Saranyat Narapong นพิตินา นพิตินา 323-9-9448

Remarks :
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Technical Management :
Narumon Banchoengk
Supervisor
นพิตินา นพิตินา 323-9-9448

Approved by :
Dej Changchon
Senior Manager
นพิตินา นพิตินา 323-9-9448

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248450
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894596-1

Page 1 of 1

Sample Number	248450-1						Page 1 of 1
Sample Date	Feb 07, 2024 11:19 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2550	Plot	B-11C	Site	Kuriyama (Thailand) Co.,Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.6	48.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawat Nangpang วิสุตนิเทศ 9-323-9-0011

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Technical Management

N. Bangnit

Approved by

D. Chongchit

Narumon Banchoangkit
Supervisor
วิสุตนิเทศ 9-323-9-0445

Dej Chongchit
Senior Manager
วิสุตนิเทศ 9-323-9-0442

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248546
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894755-1

Page 1 of 1

Sample Number	248546-1						Page 1 of 1
Sample Date	Feb 09, 2024 2:00 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_020_2550	Plot	Z-3	Site	Kyodan (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Colorless, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.6	16.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	124	≤1000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawat Nangpang วิสุตนิเทศ 9-323-9-0011, Pattarapol Sawangjittam วิสุตนิเทศ 9-204-9-0002

Remarks :
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Technical Management

N. Bangnit

Approved by

D. Chongchit

Narumon Banchoangkit
Supervisor
วิสุตนิเทศ 9-323-9-0445

Dej Chongchit
Senior Manager
วิสุตนิเทศ 9-323-9-0442

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Analysis / Test Report



TESTING
No.0009

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248546
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894755-2

Page 1 of 1

Sample Number	248546-1						Page 1 of 1
Sample Date	Feb 09, 2024 2:00 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_020_2550	Plot	Z-3	Site	Kyodon (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 12, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Colorless, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Copper	mg/L	0.0003	0.0005	0.36	≤2.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Nickel	mg/L	0.0003	0.0005	0.0008	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawat Nangpang วิสุตนิเทศ 9-323-9-0011, Pattarapol Sawangjittam วิสุตนิเทศ 9-204-9-0002

Remarks :
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Technical Management

Chenatt L.

Approved by

K. Anuk

Chenatt L.
Senior Manager
วิสุตนิเทศ 9-204-9-4710

Karnkorn Anuk
Senior Manager
วิสุตนิเทศ 9-204-9-1111

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248547
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894756-1

Page 1 of 1

Sample Number	248547-1						Page 1 of 1
Sample Date	Feb 09, 2024 2:10 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_021_2550	Plot	Z-6	Site	Kyodon (Thailand) Co., Ltd.		
Location	Factory 2						
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Colorless, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	15.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Waying
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Waying
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Waying
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	140	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Waying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawat Nangpang วิสุตนิเทศ 9-323-9-0011, Pattarapol Sawangjittam วิสุตนิเทศ 9-204-9-0002

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Technical Management

N. Bangnit

Approved by

D. Chongchit

Narumon Banchoangkit
Supervisor
วิสุตนิเทศ 9-323-9-0445

Dej Chongchit
Senior Manager
วิสุตนิเทศ 9-323-9-0442

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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0009

Lot ID: 248547
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894736-2

Page 1 of 1

Sample Number	248547-1						
Sampled Date	Feb 09, 2024 2:10 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_021_2550	Plot	Z-6	Site	Kyodo (Thailand) Co., Ltd.		
Location	Factory 2						
Date Analysis Commenced	Feb 12, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Colorless, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Copper	mg/L	0.0003	0.0005	0.30	≤2.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 1125 B, 1030 F	Bangkok
Nickel	mg/L	0.0003	0.0005	0.001	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 1125 B, 1030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : สุรวิทย์ นารองยงค์ (Surawit Narongyong) >323-4-0011, พัชรพงศ์ สารกิจธรรม (Patcharapong Sangkitham) >204-4-0002

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Technical Management

Chanatt L.

Approved by

Kanokorn Anok

Kanokorn Anok
Senior Manager
โทร: 02-044-4710

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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248470
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894659-1

Page 1 of 1

Sample Number	248470-1						
Sampled Date	Feb 07, 2024 11:53 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_013_2557	Plot	B-6B		SRe	Kyova SS (Thailand) Co.,Ltd.	
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.9	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : สุรวิทย์ นารองยงค์ (Surawit Narongyong) >323-4-0011

Remarks :
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Technical Management

N. Banthongk

Approved by

D. Chongch

Narumon Banthongk
Supervisor
โทร: 02-044-4710

Dij Chongch
Senior Manager
โทร: 02-044-4710

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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248448
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894592-1

Page 1 of 1

Sample Number	248448-1						
Sampled Date	Feb 09, 2024 11:36 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2554	Plot	A-5/1		Site	Laem Chabang Tank Services Co., Ltd.	
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	14.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : สุรวิทย์ นารองยงค์ (Surawit Narongyong) >323-4-0011

Remarks :
- LOD : Limit of Detection
- "x" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banthongk

Approved by

D. Chongch

Narumon Banthongk
Supervisor
โทร: 02-044-4710

Dij Chongch
Senior Manager
โทร: 02-044-4710

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248454
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894603-1

Page 1 of 1

Sample Number	248454-1						
Sampled Date	Feb 07, 2024 11:44 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2551	Plot	B-7		Site	Lungha Products Asia Co., Ltd.	
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Black, a lot of odour, solid, and turbid						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	63.5	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Revised
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Revised
pH (on site) *	-	-	-	6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Revised

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : สุรวิทย์ นารองยงค์ (Surawit Narongyong) >323-4-0011

Remarks :
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Technical Management

N. Banthongk

Approved by

D. Chongch

Narumon Banthongk
Supervisor
โทร: 02-044-4710

Dij Chongch
Senior Manager
โทร: 02-044-4710

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TESTING

Lot ID: 248527
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894911-1

Page 2 of 2

Sample Number	24890-1		
Sampled Date	Feb 08, 2024 2:50 PM		
Sample Description	Wastewater		
Contact ID	L_CIE_001_2360	Pilot	7.37
Date Analysis Commenced	Feb 08, 2024		
Condition of Sample			
Physical Property	Contained in one amber glass bottle and one plastic bottle. Sample containers contain : pre-reaction - pre-reaction; standards (Aqua / urea)		
	Colorless, some odor, solid and no turbid		

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	7.5	≥500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 2210 B, part 4500 - O ₂	Kayapuri
Oil & Grease	mg/L	—	1	1.3	≥10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 2520 B	Kayapuri
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 4500 - H ₂ PO ₄	Kayapuri

Guideline: Notification of the Industrial Estate Authority of Thailand (In 76, B.E. 2560): Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant.
Sampling By: Pethaya Thongtaeng 010-0000000-1-323-4-9448.

Remarks:

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D. K. M. S.

Dej Changchon
Senior Manager

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TESTING

Lot ID: 248462
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2095159-1

Source: *Author's calculations*.

Sample Number	248331-1			Page 1
Sample Date	Feb 09, 2024 3:08 PM			
Sample Description	Wastewater			
Contract ID	L_WHA	Plot K2	Site NAMTONG TERMINAL PUBLIC COMPANY LIMITED	
Date Analysis Commenced	CET 2024-2566			
	Feb 09, 2024			
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)			
Risk/Biohazard	No Risk/Biohazard, organic liquid and solid			

Analyte/Property		Reference (or, original, source report and LOQ)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Tested Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	13.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2002, part 5210-B, part 5200 - O G	Kayapong
Oil & Grease	mg/L		1	4.3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5200 B	Kayapong
pH (on site) *				7.8	6.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF	Kayapong

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : Surawit Harasong WISOLUWA 8 9 323-4-0011

Remark :

- 100 Limit of Detection
- > 100 Lower than 100 (Limit of Quantitation) / 100 (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025
- This laboratory has been accredited as a chemical laboratory for the analysis of

D. Krumholz.

Dej Changthoh
Senior Manager

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ADDRESS SITE/TE Mail : Manan.khe.A.Pusakkarn@rayong21140.thailand PHONE : +66 0 3304 8551 FAX : +66 0 3304 8552

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TESTING

Lot ID: 248531

10

Sample Number	248331-1			Page 1
Sample Date	Feb 09, 2024 3:08 PM			
Sample Description	Wastewater			
Contract ID	L_WHA	Plot K2	Site NAMTONG TERMINAL PUBLIC COMPANY LIMITED	
Date Analysis Commenced	CET 2024-2566			
	Feb 09, 2024			
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)			
Risk/Biohazard	No Risk/Biohazard, no infectious agent			

Analyte/Property		Reference (or, original, source report and LOQ)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Tested Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	13.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2002, part 5210-B, part 5200 - O G	Kayapong
Oil & Grease	mg/L		1	4.3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5200 B	Kayapong
pH (on site) *				7.6	6.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF	Kayapong

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant

Sampling By : Surawit Harasong WISOLUWA 8 9 323-4-0011

Remark :

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- > 100 Lower than 100 (Limit of Quantitation) / 100 (Limit of Reporting)
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D. Krumholz.

Dej Changthoh
Senior Manager

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ADDRESS SITE/TE Mail : Manan.khe.A.Pusakkarn@rayong21140.thailand PHONE : +66 0 3304 8551 FAX : +66 0 3304 8552

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 248466
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894651-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248466-1						
Sample Date	Feb 07, 2024 10:51 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2560	Plot	A-0A	Site	NDC Plastec (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	47.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O & S	Kayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant.

Sampling By : Surawit Narongpong วิสุตวราภรณ์ 323-9-9445

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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
วิสุตวราภรณ์ 323-9-9445

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิสุตวราภรณ์ 323-9-9442

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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 248517
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894651-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248517-1						
Sample Date	Feb 07, 2024 11:18 AM						
Sample Description	Wastewater						
Contract ID	L_WHA CIE1_001_2565	Plot	B-110	Site	richiya Asa (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	74.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O D	Kayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant.

Sampling By : Surawit Narongpong วิสุตวราภรณ์ 323-9-9445

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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
วิสุตวราภรณ์ 323-9-9445

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิสุตวราภรณ์ 323-9-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 248549
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894559-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248549-1						
Sample Date	Feb 07, 2024 10:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_016_2559	Plot	A-4	Site	NIDEC Die-casting (Thailand) Co., Ltd.		
Location	Factory 1						
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	12.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	42	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	—	3	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 Degree C	mg/L	—	3	14	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant.

Sampling By : Surawit Narongpong วิสุตวราภรณ์ 323-9-9445

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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
วิสุตวราภรณ์ 323-9-9445

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิสุตวราภรณ์ 323-9-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 248446
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894589-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number	248446-1						
Sample Date	Feb 07, 2024 10:28 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_007_2559	Plot	A-5	Site	NIDEC Die-casting (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	44.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Keyong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Keyong
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Keyong
Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristics from factory discharge to central wastewater Treatment Plant Sampling By : Surawit Neeponpetch (E-mail: s223-a-0011)							
Remarks:							
* LOD : Limit of Detection							
* < = : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)							
* Analytical method : Above not included = state of Accreditation ISO/IEC 17025							
* The laboratory has been accepted as an Accredited Laboratory complying with the ISO/IEC 17025.							

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant.

Sampling By : Surawit Narongpong วิสุตวราภรณ์ 323-9-9445

Remark :
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Technical Management

N. Banthong

Narumon Banthongkiet
Supervisor
วิสุตวราภรณ์ 323-9-9445

Approved by

D. Chongchom

Dej Chongchom
Senior Manager
วิสุตวราภรณ์ 323-9-9442

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TESTING
M-2048

Lot ID: 248497
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2898787-1

Page 2 of 3

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	89.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4100 - 5-G	Bayang
Oil & Grease	mg/L		8	4	≤ 10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 1520 B	Bayang
pH (on site) *			-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4100 - II (B)	Bayang

Remarks :

- LDO : Limit of Detection
- "4" : Lower limit LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

D. Khunov

Deji Changfion
Senior Manager
+86-139-0106-8841

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Internet: <http://www.irs.gov>



TESTING

Lot ID: 248472
Date Received: Feb 07, 202
Date Reported: Feb 13, 202
Report Number: 289-1663-1

Figure 2

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
500 (5 days at 20 Degrees C)	mg/L	—	2.0	38.2	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5010, C-D	Bayport
Oil & Grease	mg/L	1	8	4.3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bayport
pH (on site)				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500, H (B)	Bayport

Remark 1

- LOD : Limit of Detection
- "n" : Lower than LOQ (Limit of Quantitation) / LOD (Limit of Reporting)

Analyte(s) marked * is/are not included in scope of Accreditation (ISO/IEC 17023).

The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17023

D. Amundsen

Dej Changchon
Senior Manager

Litter: Soil Invertebrates

www.alchemical.com

Principalia

(continued)



TESTING

Lot ID: 248465
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number: 2894649-1

Page 3 of 3

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing BOD (5 days at 20 Degree C)	mg/L	2.0	16.6		≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, sect 4550 - D G	Kayam
Oil & Grease	mg/L	1	4.1		≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayam
pH (on site) *		—	—	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H, 4500	Kayam

Remarks :
 - LOQ - Limit of Detection
 - "m" - Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
 Analyte(s) marked "n/a" are not included in scope of Accreditation ISO/IEC 17025
 The laboratory has been assessed as an accredited laboratory complying with the ISO/IEC 17025

D. Kumar

Dej Changchun
Senior Manager

1. *Journal of the American Medical Association*, 273: 1033-1034, 1995.

LABORATORY GROUP (THAILAND) CO., LTD.
www.algglobal.com

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 105–112

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26



TESTING

Lot ID: 248501
Date Received : Feb 09, 2020
Date Reported : Feb 14, 2020
Report Number : 2888518.1

100

Physical Property	Yellow, a lot of odor, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	79.8	<100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 6500-10-0	Exposure
Oil & Grease	mg/L		1	0.8	<100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5550 B	Exposure
pH (at 20 °C)				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF,	Exposure

Sampling By: Pathways Thungtong vutDunawR 7-323-4940

Samples:

LOC	Unit of Deposition
*A	Liquid Phase LOC (Unit of Oxygenation) / LOR (Unit of Respiration)
Analyte(s) marked *	s are not included in source of Accreditation [COTED 1702]

D. K. ...


Dej Changchan
Senior Manager

1. *Journal of Management Studies*, 1996, 33, 1, 1-14.

DRY GROUP (THAILAND) CO., LTD. AN AIS LISTED COMPANY

1. *Journal of the American Medical Association*, 1997; 278: 1019-1024.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26



Analysis / Test Report

TESTING
No.0042

Lot ID: 248489

Date Received : Feb 06, 2024

Date Reported : Feb 14, 2024

Report Number : 2894727-1

Client : WHA Utilities and Power Public Company Limited

331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi

Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number

248489-1

Sampled Date

Feb 06, 2024 2:41 PM

Sample Description

Wastewater

Contract ID

L_CIE_001_2561

Plot

Z-59 F

Site

Refuflow (Thailand) Limited.

Date Analysis Commenced

Feb 06, 2024

Condition of Sample

Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.

Physical Property

(APIHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	180	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibhaya Thongtongwong วิไลสุภาวดี 323-9-9448

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkit

Approved by

D. Changchom

Narumon Banjongkit
Supervisor
วิไลสุภาวดี 323-9-9445


Dej Changchom
Senior Manager
วิไลสุภาวดี 323-9-9442

ADDRESS 81/610 Moo 5, T. Maenam Khu A, Phasi Charoen Rayong 21140 Thailand : PHONE +66 0 3304 8555 FAX +66 0 3304 8556

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Analysis / Test Report

TESTING
No.0042

Lot ID: 248488

Date Received : Feb 06, 2024

Date Reported : Feb 14, 2024

Report Number : 2894635-1

Client : WHA Utilities and Power Public Company Limited

331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi

Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number

248488-1

Sampled Date

Feb 06, 2024 11:03 AM

Sample Description

Wastewater

Contract ID

L_CIE_014_2560

Plot

D-12/2A

Site

S.O. TANK CLEANING TERMINAL Co., Ltd.

Date Analysis Commenced

Feb 06, 2024

Condition of Sample

Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.

Physical Property

(APIHA / USEPA)
Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	66.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibhaya Thongtongwong วิไลสุภาวดี 323-9-9448

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkit

Approved by

D. Changchom

Narumon Banjongkit
Supervisor
วิไลสุภาวดี 323-9-9445


Dej Changchom
Senior Manager
วิไลสุภาวดี 323-9-9442

ADDRESS 81/610 Moo 5, T. Maenam Khu A, Phasi Charoen Rayong 21140 Thailand : PHONE +66 0 3304 8555 FAX +66 0 3304 8556

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Analysis / Test Report

TESTING
No.0042

Lot ID: 248483

Date Received : Feb 06, 2024

Date Reported : Feb 14, 2024

Report Number : 2894709-1

Client : WHA Utilities and Power Public Company Limited

331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi

Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number

248483-1

Sampled Date

Feb 06, 2024 3:49 PM

Sample Description

Wastewater

Contract ID

L_CIE_002_2556

Plot

Z-32

Site

Sai Industry (Thailand) Co., Ltd.

Date Analysis Commenced

Feb 06, 2024

Condition of Sample

Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.

Physical Property

(APIHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	83.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibhaya Thongtongwong วิไลสุภาวดี 323-9-9448

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkit

Approved by

D. Changchom

Narumon Banjongkit
Supervisor
วิไลสุภาวดี 323-9-9445


Dej Changchom
Senior Manager
วิไลสุภาวดี 323-9-9442

ADDRESS 81/610 Moo 5, T. Maenam Khu A, Phasi Charoen Rayong 21140 Thailand : PHONE +66 0 3304 8555 FAX +66 0 3304 8556

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RIGHT SOLUTIONS RIGHT PEOPLE



Analysis / Test Report

TESTING
No.0042

Lot ID: 248482

Date Received : Feb 06, 2024

Date Reported : Feb 14, 2024

Report Number : 2894707-1

Client : WHA Utilities and Power Public Company Limited

331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi

Thailand 20230

P/O :

Project Name : Factory 1 Monthly

Project Location: WHA CIE 1

Sample Number

248482-1

Sampled Date

Feb 06, 2024 3:43 PM

Sample Description

Wastewater

Contract ID

L_CIE_002_2550

Plot

Z-33

Site

Sakura Industry (Thailand) Co., Ltd.

Date Analysis Commenced

Feb 06, 2024

Condition of Sample

Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.

Physical Property

(APIHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	168	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	5	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibhaya Thongtongwong วิไลสุภาวดี 323-9-9448

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * refers not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banjongkit

Approved by

D. Changchom

Narumon Banjongkit
Supervisor
วิไลสุภาวดี 323-9-9445

Dej Changchom
Senior Manager
วิไลสุภาวดี 323-9-9442

ADDRESS 81/610 Moo 5, T. Maenam Khu A, Phasi Charoen Rayong 21140 Thailand : PHONE +66 0 3304 8555 FAX +66 0 3304 8556

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Analysis / Test Report



TESTING

Client : WHA Utilities and Power Public Company Limited
331/9-9 Moo 6, High Way No.331 Road, Tambol Boini, Amphur Siriracha, Chonburi
Thailand 20230

Lot ID: 248543
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2895147-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number : 248543-1
Sample Date : Feb 09, 2024 11:00 AM
Sample Description : Wastewater
Contract ID : L_CIE_001_2555 Plot : C-5.6 SRe : SANG CHAREON EASTERN GALVANIZE CO.,LTD.
Date Analysis Commenced : Feb 09, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210.5, part 4500 - O ₅	Bangkok
COO	mg/L	1.5	25	<35	≤250	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520.0	Bangkok
Oil & Grease	mg/L	-	3	<7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520.0	Bangkok
pH (on site) *	-	-	-	7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok
Total Dissolved Solids (Dist at 180 degree C)	mg/L	-	5	<190	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narongwong วิสุวัต นารองวงศ์, Pattarapol Sawangjatan ปัทธวาทน์ สว่างจัตน

Remark :
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"L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
Analytical method : where not included in scope of Accreditation ISO/IEC 17025.
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Technical Management

N. Banphit

Narumon Banphit
Supervisor
วิสุวัต นารองวงศ์ 323-9-945

Approved by

D. Chongkarn

Dei Chongkarn
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Address 104 Phatthanaburi 40 Phatthanaburi Rd. Phatthanaburi 40100 Thailand. PHONE +66 0 2760 3000 FAX +66 0 2760 3197
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TESTING

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Thailand 20230

Lot ID: 248543
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2895147-2

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number : 248543-1
Sample Date : Feb 09, 2024 11:00 AM
Sample Description : Wastewater
Contract ID : L_CIE_001_2555 Plot : C-5.6 SRe : SANG CHAREON EASTERN GALVANIZE CO.,LTD.
Date Analysis Commenced : Feb 12, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.003	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125.8, 3030 F	Bangkok
Zinc	mg/L	0.0003	0.0005	<0.7	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125.8, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narongwong วิสุวัต นารองวงศ์, Pattarapol Sawangjatan ปัทธวาทน์ สว่างจัตน

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Technical Management

Chanatt L.

Chanattagarn Inthom
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Approved by

K. Anuk

Karnkarn Anuk
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Address 104 Phatthanaburi 40 Phatthanaburi Rd. Phatthanaburi 40100 Thailand. PHONE +66 0 2760 3000 FAX +66 0 2760 3197
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Thailand 20230

Lot ID: 248478
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894677-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number : 248478-1
Sample Date : Feb 07, 2024 11:00 AM
Sample Description : Wastewater
Contract ID : L_CIE_018_2557 Plot : F-15 SRe : SCT (Thailand) Co.,Ltd.
Date Analysis Commenced : Feb 07, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.007	0.0005	0.11	≤10.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123.8, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narongwong วิสุวัต นารองวงศ์, Pattarapol Sawangjatan ปัทธวาทน์ สว่างจัตน

Remark :
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Approved by

Chanatt L.

Chanattagarn Inthom
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Technical Management

N. Banphit

Narumon Banphit
Supervisor
วิสุวัต นารองวงศ์ 323-9-945

Approved by

D. Chongkarn

Dei Chongkarn
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Address 104 Phatthanaburi 40 Phatthanaburi Rd. Phatthanaburi 40100 Thailand. PHONE +66 0 2760 3000 FAX +66 0 2760 3197
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Thailand 20230

Lot ID: 248478
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894677-1

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number : 248478-1
Sample Date : Feb 07, 2024 2:07 PM
Sample Description : Wastewater
Contract ID : L_CIE_018_2557 Plot : F-15 SRe : SCT (Thailand) Co.,Ltd.
Date Analysis Commenced : Feb 07, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	85.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210.5, part 4500 - O ₅	Bangkok
Oil & Grease	mg/L	-	3	2	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520.0	Bangkok
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Surawit Narongwong วิสุวัต นารองวงศ์, Pattarapol Sawangjatan ปัทธวาทน์ สว่างจัตน

Remark :
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Technical Management

N. Banphit

Narumon Banphit
Supervisor
วิสุวัต นารองวงศ์ 323-9-945

Approved by

D. Chongkarn

Dei Chongkarn
Senior Manager
วิสุวัต นารองวงศ์ 323-9-945

Address 104 Phatthanaburi 40 Phatthanaburi Rd. Phatthanaburi 40100 Thailand. PHONE +66 0 2760 3000 FAX +66 0 2760 3197
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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 248477

Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894674-1

Page 1 of 1

Sample Number	248477-1						
Sampled Date	Feb 07, 2024 2:42 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_017_2557	Plot	F-10	Site	Shinai Koli (Thailand) Corporation Limited.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.1	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Sarawit Narapong วิสุฒานนท์ 323-4-9445

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Technical Management
N. Banngit
Narumon Banngit
Supervisor
วิสุฒานนท์ 323-4-9445

Approved by
D. Chongchom
Dej Chongchom
Senior Manager
วิสุฒานนท์ 323-4-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 248452

Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894600-1

Page 1 of 1

Sample Number	248452-1						
Sampled Date	Feb 06, 2024 10:07 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_017_2550	Plot	B-3	Site	Shinai Koyjo (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 06, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, a lot of solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	18.0	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4.3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Phibye Thongkang วิสุฒานนท์ 323-4-9448

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Technical Management
N. Banngit
Narumon Banngit
Supervisor
วิสุฒานนท์ 323-4-9445

Approved by
D. Chongchom
Dej Chongchom
Senior Manager
วิสุฒานนท์ 323-4-9442

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Analysis / Test Report

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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 248456

Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894632-1

Page 1 of 1

Sample Number	248456-1						
Sampled Date	Feb 07, 2024 3:00 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_018_2550	Plot	D-13/2	Site	Sum Steel Mill Services Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.9	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Sarawit Narapong วิสุฒานนท์ 323-4-9445

Remark :
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Technical Management
N. Banngit
Narumon Banngit
Supervisor
วิสุฒานนท์ 323-4-9445

Approved by
D. Chongchom
Dej Chongchom
Senior Manager
วิสุฒานนท์ 323-4-9442

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Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 248451

Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894599-1

Page 1 of 1

Sample Number	248451-1						
Sampled Date	Feb 07, 2024 11:11 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_004_2552	Plot	B-11A	Site	SPF (Thailand) Co., Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	28.8	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Sarawit Narapong วิสุฒานนท์ 323-4-9445

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Technical Management
N. Banngit
Narumon Banngit
Supervisor
วิสุฒานนท์ 323-4-9445

Approved by
D. Chongchom
Dej Chongchom
Senior Manager
วิสุฒานนท์ 323-4-9442

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TESTING
No. 0042

Lot ID: 248455
Date Received : Feb 06, 2024
Date Reported : Feb 14, 2024
Report Number : 2894606-1

Page 1 of 1

Sample Number	248403-1		
Sampled Date	Feb 08, 2024 11:18 AM		
Sample Description	Wastewater		
Contract ID	LC_LTE_003_2550	Plot	FI-3
Date Analysis Commenced	Feb 08, 2024		
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pH treatment (4) (Reclassification) standards.		
Physical Property	(APIX) (USDA) (A) (APIX) (USDA) (A) Yellow, dense odour, solid and turbid		

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing BOI (5 days at 20 Degree C)	mg/L	-	2.0	179	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 19th ed., 2017, part 5210 B, part 9500 - O-G	Bayport
Oil & Grease	mg/L	-	10	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 19th ed., 2017, part 5520 B	Bayport
pH (see note 4)	-	-	-	6.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 19th ed., 2017, part 9500 - H (8)	Bayport

Guideline: Notification of the Industrial Estate Authority of Thailand (No.76, B.E. 2560): Criteria of wastewater characteristic from factory discharge to central Wastewater Treatment Plant
Sampling By: Pittaya Thongtaeng w.dunnawad +323-9-9446

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Technical Management: N. B. Bhangit
Narumon Bhangit
Supervisor
โทรศัพท์มือถือ 09-323-99445

Approved by: D. Chanchon
Dej Chanchon
Senior Manager
โทรศัพท์มือถือ 09-323-99442

Results apply to the sample(s) as described, unless the sampling was conducted in a US, in which case the results may be extrapolated to any domestic cotton variety raised from the laboratory. ACS Laboratory Service (Thailand) strongly recommends that this report is not reproduced outside its file.

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TESTING
No. 0042


Lot ID: 248541
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894786-1

Page 2 of 11

Sample Number	24B457-1		
Sample Date	Feb 08, 2024 10:55 AM		
Sample Description	Wastewater		
Contract ID	LC_E007_2056	Plot	D-12/1A
Date Analysis Commenced	Feb 08, 2024	Site	THAT ESCORP LTD.
Condition of Sample	Contained in two amber glass bottle and one plastic bottle. Sample containers comply to pretest/astm - preservation standards.		
Physical Property	(APHA, 12593) Yellow, a lot of odour, some solid and a lot of turbid		

[illegible]

Technical Management: N. Banerjee, D. Kumar

Approved by 
 Dej Chanython
 Senior Manager
 หมายเลขโทรศัพท์ 323-9442

Results were due to the limited size of the sampling area conducted by ALS. In part, this report may be representative of the site, but it is not intended to represent the entire site. The data were collected by ALS Laboratory Group (Thailand) Company Limited, which is a subsidiary of ALS.

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TESTING
No. 0042


Lot ID: 248457
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2594636-1

2

Sample Number	24B457-1		
Sampled Date	Feb 08, 2024 10:55 AM		
Sample Description	Wastewater		
Contract ID	LC_E007_2056	Plot	D-12/1A
Date Analysis Commenced	Feb 08, 2024	Site	THAT ESCORT LTD.
Condition of Sample	Contained in two amber glass bottle and one plastic bottle. Sample containers comply to pretest/anti - preservation standards.		
Physical Property	(APHA, 1925A) Yellow, a lot of odour, some solid and a lot of turbid		

[illegible]

Technical Management: N. Banerjee, D. Kumar

Approved by 
 Dej Chanython
 Senior Manager
 หมายเลขโทรศัพท์ 323-9442

Results were due to the limited size of the sampling area conducted by ALS. In part, this report may be representative of the site, but it is not intended to represent the entire site. The data were collected by ALS Laboratory Group (Thailand) Company Limited, which is a subsidiary of ALS.

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248544
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894732-1

Page 1 of 1

Sample Number	248544-1						
Sampled Date	Feb 09, 2024 1:36 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2559	Plot	D-9	Site	Thai Huawei Battery Co., Ltd.		
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, no solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
CO ₂	mg/L	1.5	25	<25	<750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Kayong
Oil & Grease	mg/L	-	3	<3	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Kayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	180	<3600	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Kayong
Total Suspended Solids Dried at 102-105 degree C	mg/L	-	5	<5	<200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawit Narapong นิสิตงานร 323-4-0011, Pattarapol Samwattajarn นิสิตงานร 204-4-0002

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * value not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banthong

Approved by

D. Chumpon

Narumon Banthongkiet
Supervisor
นิสิตงานร 323-4-9445

Dej Chumpon
Senior Manager
นิสิตงานร 323-4-9442

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

ADDRESS 61/10 Moo 7 T. Maenam Klu A. Phakdang Rong 21140 Thailand. Phone: +66 0 3304 8553 Fax: +66 0 3304 8556
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2 Report No. 0042



Analysis / Test Report



TESTING
No.0009

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248544
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894732-2

Page 1 of 1

Sample Number	248544-1						
Sampled Date	Feb 09, 2024 1:36 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2559	Plot	D-8	Site	Thai Huawei Battery Co., Ltd.		
Date Analysis Commenced	Feb 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, no solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Lead	mg/L	0.0003	0.0005	0.005	<0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawit Narapong นิสิตงานร 323-4-0011, Pattarapol Samwattajarn นิสิตงานร 204-4-0002

Remarks :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * value not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chanatt L.

Approved by

K. Anuk

Chanattagarn Bhoonon
Senior Manager
นิสิตงานร 204-4-9710

Kangkorn Anuk
Senior Manager
นิสิตงานร 204-4-0111

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ADDRESS 104 Phantabon Road, Phantabon Sub-township, Phantabon District, Nakhon Si Thammarat 90100 Thailand. Phone: +66 0 2760 3100 Fax: +66 0 2760 3197
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2 Report No. 0009



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248530
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2895176-1

Page 1 of 1

Sample Number	248530-1						
Sampled Date	Feb 09, 2024 1:36 PM						
Sample Description	Wastewater						
Contract ID	L_WHA_CIE_004_2566	Plot	2-60,261,261B	Site	THAI OUTDOOR POWER TECHNOLOGY Co., Ltd.		
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.7	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	3	<3	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Surawit Narapong นิสิตงานร 323-4-0011

Remarks :
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banthong

Approved by

D. Chumpon

Narumon Banthongkiet
Supervisor
นิสิตงานร 323-4-9445

Dej Chumpon
Senior Manager
นิสิตงานร 323-4-9442

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ADDRESS 61/10 Moo 7 T. Maenam Klu A. Phakdang Rong 21140 Thailand. Phone: +66 0 3304 8553 Fax: +66 0 3304 8556
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2 Report No. 0042



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230
P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 248525
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894906-1

Page 1 of 1

Sample Number	248525-1						
Sampled Date	Feb 09, 2024 10:53 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_2560	Plot	E-9	Site	Thai Rung Union Car Public Co., Ltd.		
Date Analysis Commenced	Feb 09, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	34.7	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	3	5	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thongkarn นิสิตงานร 323-4-9448

Remarks :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * value not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banthong

Approved by

D. Chumpon

Narumon Banthongkiet
Supervisor
นิสิตงานร 323-4-9445

Dej Chumpon
Senior Manager
นิสิตงานร 323-4-9442

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ADDRESS 61/10 Moo 7 T. Maenam Klu A. Phakdang Rong 21140 Thailand. Phone: +66 0 3304 8553 Fax: +66 0 3304 8556
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Label : Sample Name

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2 Report No. 0042



TESTING
No. 0042

Lot ID: 248510
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2804850-1

Page 2 of 2

Results

Remarks :

- LOD (Limit of Detection)
- "n" : lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation (ISO/IEC 17025).
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Dej Changthon
Senior Manager
โทรศัพท์มือถือ : 023-0

ADDRESSES/TO: Mee S. T. Manman KHU A. Pualaseng Rayong 21140 Thailand PHONE 468 0 3324 8355 FAX 468 0 3304 8558
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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26



TESTING
No. 0042

Lot ID: 248533
Date Received : Feb 08, 2024
Date Reported : Feb 14, 2024
Report Number : 2894024.1

Table 1. (continued)

10

Remark 1

- LOD: Limit of Detection
- "e": Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * refers not included in scope of Accreditation ISO/IEC 17033.

The Ministry has been accredited as an accredited laboratory in compliance with the ISO/IEC 17033

Dej Chongchong
Senior Manager
+66 2 222 2222

ADDRESS: 16/10 Moo 5, T. Maenam Klu, Phukdaeng, Rayong 21140 Thailand. PHONE: +66 0 3204 8555 FAX: +66 0 3204 2555
AIS LABORATORY GROUP (THAILAND) CO., LTD. An AIS Limited Company



TESTING
No. 0042

Lot ID: 248519
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number : 2894870-1

Page 1 of 1

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Remark:

- LOQ = Limit of Detection
- "<" = lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Analysis included "x" where not included in scope of Accreditation (ISO/IEC 17025)
The laboratory has been accredited as an accredited laboratory consistent with the ISO/IEC 17025

Dej Changthion
Senior Manager

ADDRESS/10 Moo 5, T. Maenam Kh. A. Huakdaeng Rayong 21140 Thailand. PHONE +66 0 3304 8555. FAX +66 0 3304 8556.

10



TESTING
No. 0042

Lot ID: 248502
Date Received : Feb 09, 2024
Date Reported : Feb 15, 2024
Report Number: 2804815.1

Page 11 of 11

10

Sampling by: Ratnaya Thongkum NICHOLSON 1-22-1998

Remark:

- LOD Limit of Detection.
- "n" - larger than LOD (Limit of Quantitation) / LR (Limit of Reporting).

Analysis(s) marked "x" were not included in group of observations. 10/01/01 17:53.

The description, location, comments, or any associated information with this data is located in a separate file.

De/ Changchun
Senior Manager

ADDRESS: 816/10 Moo 5, T. Maenam, K. W. Phakdang, Rayong, 21140 Thailand. PH: 091-000-0000 FAX: 091-000-0000



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248473
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894665-1

Page 1 of 1

Sample Number	248473-1						
Sampled Date	Feb 07, 2024 2:48 PM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	F-6	Site	Van Leusuwan Pipe and Tube (Thailand) Ltd.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	8.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Suravit Narapong wiratunwong@323-n-9442

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analysis method : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management
N. Banchoh
Narumon Banchoh
Supervisor
wiratunwong@323-n-9442

Approved by
D. Chongtham
Dej Chongtham
Senior Manager
wiratunwong@323-n-9442

Result apply to the sample(s) as submitted, unless the sampling was controlled by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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ISO 50001:2018

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 248523
Date Received : Feb 07, 2024
Date Reported : Feb 13, 2024
Report Number : 2894669-1

Page 1 of 1

Sample Number	248523-1						
Sampled Date	Feb 07, 2024 11:28 AM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	B-10C	Site	V-SACHET CO., LTD.		
Date Analysis Commenced	Feb 07, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	32.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Suravit Narapong wiratunwong@323-n-9442

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analysis method : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management
N. Banchoh
Narumon Banchoh
Supervisor
wiratunwong@323-n-9442

Approved by
D. Chongtham
Dej Chongtham
Senior Manager
wiratunwong@323-n-9442

Result apply to the sample(s) as submitted, unless the sampling was controlled by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421213
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919285-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421213-1						
Sampled Date	Mar 13, 2024 1:03 PM						
Sample Description	Wastewater						
Contract ID	L_WHA	Plot	2-33H	Site	AGRI SYRUP INDUSTRY (THAILAND) Co., Ltd.		
Date Analysis Commenced	CIE1_008_2564 Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing	BOD (5 days at 20 Degree C)						
	mg/L	—	2.0	110	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4000 - O-G	Rayong
Oil & Grease	mg/L	—	3	3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (at 25°C) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai วิธณูปาจร ๖323-๙460

Remark :
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The laboratory has been accepted as an accredited laboratory complying with the (ISO/IEC) 17025

Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิธณูปาจร ๖323-๙445

Dej Chongchon
Senior Manager
วิธณูปาจร ๖323-๙442

Address 618/10 Moo 5 : T. Narumon Khu & Phakdang Rayong 21140 Thailand PHONE : +66 8 8304 8355 FAX : +66 8 8304 8356
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 2421220
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919320-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421220-1									
Sampled Date	Mar 13, 2024 10:35 AM									
Sample Description	Wastewater									
Contract ID	L_WHA	Plot	2-33B	Site	AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED					
Date Analysis Commenced	CIE1_004_2565 Mar 13, 2024									
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)									
Physical Property	Yellow, a lot of odour, some solid and turbid.									
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location			
Water Testing	BOD (5 days at 20 Degree C)									
	mg/L	-	2.0	75.4	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong			
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong			
pH (at 25°C) *	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong			

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai วิธณูปาจร ๖323-๙460

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิธณูปาจร ๖323-๙445

Dej Chongchon
Senior Manager
วิธณูปาจร ๖323-๙442

Address 618/10 Moo 5 : T. Narumon Khu & Phakdang Rayong 21140 Thailand PHONE : +66 8 8304 8355 FAX : +66 8 8304 8356
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421222
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919324-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421222-1						
Sampled Date	Mar 13, 2024 10:42 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_007_2560	Plot	2-39D	Site	AIR INTERNATIONAL THERMAL SYSTEMS (THAILAND) LIMITED		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	80.3	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4000 - O-G	Rayong
Oil & Grease	mg/L	-	3	9	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (at 25°C) *		-		7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai วิธณูปาจร ๖323-๙460

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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิธณูปาจร ๖323-๙445

Dej Chongchon
Senior Manager
วิธณูปาจร ๖323-๙442

Address 618/10 Moo 5 : T. Narumon Khu & Phakdang Rayong 21140 Thailand PHONE : +66 8 8304 8355 FAX : +66 8 8304 8356
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421189
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919205-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421189-1							Page 1 of 1
Sampled Date	Mar 13, 2024 2:42 PM							
Sample Description	Wastewater							
Contract ID	L_CIE_008_2558	Plot	2-33E	Site	Analog City			
Date Analysis Commenced	Mar 13, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment / preservation standards. (APHA / USEPA)							
Physical Property	Yellow, a lot of odour, some solid and turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	74.8	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4000 - O-G	Rayong	
Oil & Grease	mg/L	-	3	18	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong	
pH (at 25°C) *		-		8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanont Wongpachai วิธณูปาจร ๖323-๙460

Remark :
- LOD : Limit of Detection
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Technical Management

N. Banjongkit

Approved by

D. Chongchon

Narumon Banjongkit
Supervisor
วิธณูปาจร ๖323-๙445

Dej Chongchon
Senior Manager
วิธณูปาจร ๖323-๙442

Address 618/10 Moo 5 : T. Narumon Khu & Phakdang Rayong 21140 Thailand PHONE : +66 8 8304 8355 FAX : +66 8 8304 8356
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421151
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919108-1

Page 1 of 1

Sample Number	2421151-1						
Sampled Date	Mar 11, 2024 11:11 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2557	Plot	B-10B	Site	Amtrak (Thailand) Co., Ltd.		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	81.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thongtaeng wiratdusarakh +323-9-9446

Remark :
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * where not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Banchoang

Narumon Banchoangkit
Supervisor
wiratdusarakh +323-9-9445

Approved by

D. Changchun

Dej Changchun
Senior Manager
wiratdusarakh +323-9-9442

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421169
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919152-1

Page 1 of 1

Sample Number	2421169-1						
Sampled Date	Mar 11, 2024 10:30 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_009_2558	Plot	A-08C	Site	Asahi Diamond (Thailand) Co., Ltd.		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	59.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thongtaeng wiratdusarakh +323-9-9446

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Technical Management

N. Banchoang

Narumon Banchoangkit
Supervisor
wiratdusarakh +323-9-9445

Approved by

D. Changchun

Dej Changchun
Senior Manager
wiratdusarakh +323-9-9442

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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421232
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919161-1

Page 1 of 1

Sample Number	2421232-1						
Sampled Date	Mar 11, 2024 10:59 AM						
Sample Description	Wastewater						
Contract ID	L_WHA_CIE1_006_2556	Plot	B11-B	Site	ASPECT TECHNOLOGY (THAILAND) COMPANY LIMITED		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	56.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thongtaeng wiratdusarakh +323-9-9446

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Technical Management

N. Banchoang

Narumon Banchoangkit
Supervisor
wiratdusarakh +323-9-9445

Approved by

D. Changchun

Dej Changchun
Senior Manager
wiratdusarakh +323-9-9442

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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421211
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919280-1

Page 1 of 1

Sample Number	2421211-1						
Sampled Date	Mar 13, 2024 2:34 PM						
Sample Description	Wastewater						
Contract ID	L_WHA_CIE1_005_2564	Plot	C-01	Site	ATERN COMPUTER PROGRAM Co., Ltd.		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	14.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsachai wiratdusarakh +323-9-9460

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Technical Management

Photchanas

Photchanas Soela
Supervisor
wiratdusarakh +323-9-9446

Approved by

D. Changchun

Dej Changchun
Senior Manager
wiratdusarakh +323-9-9442

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 2421175
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919167-1

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421175-1						
Sample Date	Mar 11, 2024 1:02 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2550	Plot	F-11	Site	Aul Hing Co., Ltd.		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	<2.0	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.8, part 4500 - O-G	Rayong
Oil & Grease	mg/l			<8	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.8	Rayong
pH (on site) *				3.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pichaya Thongtong wuduwawit >323-n-9446

Remark :
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Technical Management

P. Banthong

Tanawan Banthong
Supervisor
wuduwawit >323-n-9445

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
wuduwawit >323-n-9442

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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 2421252
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919248-1

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 2

Sample Number	2421252-1						
Sample Date	Mar 13, 2024 9:56 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2550	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	29.5	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.8, part 4500 - O-G	Rayong
COO	mg/L		1.5	25	<750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.10	Rayong
Color (at Original ppt)	ADPH		5	61	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.9	Rayong
Color (at pH 7.0)	ADPH		5	85	<600	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.9	Rayong
Oil & Grease	mg/L			5	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 520.8	Rayong
pH (on site) *				6.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C			26.7	<45	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550.8	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L			480	<1000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540.0	Rayong

Technical Management

Photchanas

Photchanas Seeda
Scientist (4)
wuduwawit >323-n-9446

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
wuduwawit >323-n-9442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 2421252
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919248-1

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 2 of 2

Sample Number	2421252-1						
Sample Date	Mar 13, 2024 9:56 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2550	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L		1.0	50.1	<100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part 4500-N	Rayong
Total Dissolved Solids Dried at 100-105 degree C	mg/L			23	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540.0	Rayong

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Sampling By : Tanawat Wongsakul wuduwawit >323-n-9446

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Technical Management

Photchanas

Photchanas Seeda
Scientist (4)
wuduwawit >323-n-9446

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
wuduwawit >323-n-9442

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Analysis / Test Report



Lot ID: 2421252

Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919248-2

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421252-1						
Sample Date	Mar 13, 2024 9:56 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2550	Plot	A	Site	B. Green Power (WHA) 1 Limited.		
Location	Office						
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Flow rate	m3/s			0.000	No Standard	Flow meter	Rayong
Odour					Non-Objectivable	TTS 257-25H	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanawat Wongsakul

Remark :
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Approved by

Photchanas

Photchanas Seeda
Scientist (4)

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 2421247
Date Received : Mar 12, 2024
Date Reported : Mar 16, 2024
Report Number : 2919241-1

Sample Number	2421247-1						Page 1 of 2
Sampled Date	Mar 12, 2024 3:01 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2555	Plot	2-6a	Site	BHI (THAILAND) Co., Ltd.		
Date Analysis Commenced	Mar 12, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	-	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	-	<45	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Farinet Sattayakun wirodunwatt 9-323-9-9440

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Technical Management

N. Banchongkiet

Approved by

D. Changchuen

Narumon Banchongkiet

Dej Changchuen

Senior Manager

Senior Manager

wirodunwatt 9-323-9-9440

wirodunwatt 9-323-9-9440

Address: 816/10 Moo 9, T. Maenam Klu, A. Prachinburi 21140 Thailand. PHONE: +66 0 3304 8555 FAX: +66 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 2421200
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2919256-1

Sample Number	2421200-1							Page 1 of 1
Sampled Date	Mar 13, 2024 9:10 AM							
Sample Description	Wastewater							
Contract ID	L_WHA CIE1_002_2563	Plot	B-6C	Site	Boracole (Thailand) Co., Ltd.			
Date Analysis Commenced	Mar 13, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)							
Physical Property	Yellow, some odour, solid and turbid							
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Keying	
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Keying	
pH (on site) *	-	-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Keying	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai wirodunwatt 9-323-9-9440

Remarks :
* LOD : Limit of Detection
* "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
* Analytical method : value not included in scope of Accreditation ISO/IEC 17025
* The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

Photchanan S.

Approved by

D. Changchuen

Photchanan S.

Dej Changchuen

Senior Manager

Senior Manager

wirodunwatt 9-323-9-9440

wirodunwatt 9-323-9-9440

Address: 816/10 Moo 9, T. Maenam Klu, A. Prachinburi 21140 Thailand. PHONE: +66 0 3304 8555 FAX: +66 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 2421236
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2919236-1

Sample Number	2421236-1						Page 1 of 1
Sampled Date	Mar 13, 2024 10:33 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_003_2550	Plot	B-5	Site	Boracole (Thailand) Ltd.		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	67.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Kayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	-	21	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongachai wirodunwatt 9-323-9-9440

Remarks :
* LOD : Limit of Detection
* "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
* Analytical method : value not included in scope of Accreditation ISO/IEC 17025
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Technical Management

Photchanan S.

Approved by

D. Changchuen

Photchanan S.

Dej Changchuen

Senior Manager

Senior Manager

wirodunwatt 9-323-9-9440

wirodunwatt 9-323-9-9440

Address: 816/10 Moo 9, T. Maenam Klu, A. Prachinburi 21140 Thailand. PHONE: +66 0 3304 8555 FAX: +66 0 3304 8556
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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20330

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Lot ID: 2421155
Date Received : Mar 12, 2024
Date Reported : Mar 16, 2024
Report Number : 2919150-1

Sample Number		2421155-1					Page 1 of 1	
Sampled Date		Mar 12, 2024 9:47 AM						
Sample Description		Wastewater						
Contract ID		L_CIE_009_2557		Plot	B-04	Site	Easton Tooling Systems	
Date Analysis Commenced		Mar 12, 2024						
Condition of Sample		Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Physical Property		Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Repping	
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Repping	
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Repping	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Farinet Sattayakun wirodunwatt 9-323-9-9440

Remarks :
* LOD : Limit of Detection
* "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
* Analytical method : value not included in scope of Accreditation ISO/IEC 17025
* The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

N. Banchongkiet

Approved by

D. Changchuen

Narumon Banchongkiet

Dej Changchuen

Senior Manager

Senior Manager

wirodunwatt 9-323-9-9440

wirodunwatt 9-323-9-9440

Address: 816/10 Moo 9, T. Maenam Klu, A. Prachinburi 21140 Thailand. PHONE: +66 0 3304 8555 FAX: +66 0 3304 8556
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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

Lot ID: 2421228
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919356-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 2421228-1
Sampled Date : Mar 13, 2024 8:31 AM
Sample Description : Wastewater
Contract ID : L_WHA CIE1_002_2566
Date Analysis Commenced : Mar 13, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	28.2	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	3	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		—	—	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasak Wongsachai วิธธนาสาร v-323-a-9446

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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management : Photchanas S.
Photchanas Seeda
Senior Manager
วิธธนาสาร v-323-a-9446

Approved by : Dej Chongchon
Dej Chongchon
Senior Manager
วิธธนาสาร v-323-a-9442

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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

Lot ID: 2421146
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919396-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 2421146-1
Sampled Date : Mar 11, 2024 10:00 AM
Sample Description : Wastewater
Contract ID : L_CIE_001_2557
Date Analysis Commenced : Mar 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	54.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		—	—	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thongklay วิธธนาสาร v-323-a-9448

Remark :
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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management : N. Banthongkitt
Narumon Banthongkitt
Senior Manager
วิธธนาสาร v-323-a-9445

Approved by : Dej Chongchon
Dej Chongchon
Senior Manager
วิธธนาสาร v-323-a-9442

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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

Lot ID: 2421229
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919358-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 2421229-1
Sampled Date : Mar 13, 2024 10:45 AM
Sample Description : Wastewater
Contract ID : L_WHA CIE1_002_2566
Date Analysis Commenced : Mar 13, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Colorless, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		—	—	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasak Wongsachai วิธธนาสาร v-323-a-9446

Remark :
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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management : N. Banthongkitt
Narumon Banthongkitt
Senior Manager
วิธธนาสาร v-323-a-9445

Approved by : Dej Chongchon
Dej Chongchon
Senior Manager
วิธธนาสาร v-323-a-9442

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Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

Lot ID: 2421193
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919219-1

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number : 2421193-1
Sampled Date : Mar 13, 2024 11:07 AM
Sample Description : Wastewater
Contract ID : L_WHA CIE1_002_2560
Date Analysis Commenced : Mar 13, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property : (APHA / USEPA)
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	76.5	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		—	—	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasak Wongsachai วิธธนาสาร v-323-a-9446

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management : N. Banthongkitt
Narumon Banthongkitt
Senior Manager
วิธธนาสาร v-323-a-9445

Approved by : Dej Chongchon
Dej Chongchon
Senior Manager
วิธธนาสาร v-323-a-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2421226

Date Received : Mar 12, 2024

Date Reported : Mar 18, 2024

Report Number : 2919336-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly

Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421226-1						
Sample Date	Mar 12, 2024 2:48 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_011_2557	Plot	D-1	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT		
Date Analysis Commenced	Mar 12, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	24.4	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L	—	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) ¹⁾		—	—	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุภาวดี 9-323-9-9476

Remark :

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- *LOQ : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analysis marked * where not included in scope of Accreditation ISO/IEC 17025.
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Technical Management

N. Bangnit

Narumon Banchohngk
Supervisor
วิเศษสุภาวดี 9-323-9-9445

Approved by

D. Chongchuan

Dej Chongchuan
Senior Manager
วิเศษสุภาวดี 9-323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2421163

Date Received : Mar 12, 2024

Date Reported : Mar 18, 2024

Report Number : 2919336-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly

Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421163-1								
Sample Date	Mar 12, 2024 2:40 PM								
Sample Description	Wastewater								
Contract ID	L_CIE_010_2557	Plot	D-2	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT				
Date Analysis Commenced	Mar 12, 2024								
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)								
Physical Property	Yellow, some odour, solid and turbid								
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location		
Water Testing									
BOD (5 days at 20 Degree C)	mg/L	—	2.0	19.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying		
Oil & Grease	mg/L	—	1	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying		
pH (on site) *		—	—	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying		

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Sukit Phasiraprasit วิเศษสุภาวดี 9-323-9-9476

Remark :

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Technical Management

N. Bangnit

Narumon Banchohngk
Supervisor
วิเศษสุภาวดี 9-323-9-9445

Approved by

D. Chongchuan

Dej Chongchuan
Senior Manager
วิเศษสุภาวดี 9-323-9-9442

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2421166

Date Received : Mar 12, 2024

Date Reported : Mar 18, 2024

Report Number : 2919145-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly

Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421166-1								
Sample Date	Mar 12, 2024 2:19 PM								
Sample Description	Wastewater								
Contract ID	L_CIE_004_2558	Plot	D-4	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT				
Date Analysis Commenced	Mar 12, 2024								
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.								
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid								
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location		
Water Testing									
BOD (5 days at 20 Degree C)	mg/L	—	2.0	30.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong		
Oil & Grease	mg/L	—	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong		
pH (on site) *		—	—	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong		

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุภาวดี 9-323-9-9476

Remark :

- LOD : Limit of Detection
- *LOQ : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analysis marked * where not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

N. Bangnit

Narumon Banchohngk
Supervisor
วิเศษสุภาวดี 9-323-9-9445

Approved by

D. Chongchuan

Dej Chongchuan
Senior Manager
วิเศษสุภาวดี 9-323-9-9442

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ISO/IEC 17025

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2 (Pages) 41.26 MB 23.10.2023



Analysis / Test Report



TESTING
No.0042

Lot ID: 2421180

Date Received : Mar 13, 2024

Date Reported : Mar 18, 2024

Report Number : 2919184-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly

Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421180-1								
Sample Date	Mar 13, 2024 11:45 AM								
Sample Description	Wastewater								
Contract ID	L_CIE_007_2558	Plot	E-13	Site	FRASERS PROPERTY THAILAND INDUSTRIAL FREEHOLD & LEASEHOLD REIT				
Date Analysis Commenced	Mar 13, 2024								
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)								
Physical Property	Yellow, some odour, solid and turbid								
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location		
Water Testing									
BOD (5 days at 20 Degree C)	mg/L	-	2.0	40.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying		
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying		
pH (on site) ^a		-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying		

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanakorn Wongsupachai วิเศษสุภาวดี 9-323-9-9476

Remark :

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Technical Management

N. Bangnit

Narumon Banchohngk
Supervisor
วิเศษสุภาวดี 9-323-9-9445

Approved by

D. Chongchuan

Dej Chongchuan
Senior Manager
วิเศษสุภาวดี 9-323-9-9442

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TESTING
No.0042

Lot ID: 2421182
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2916188-T

Page 1 of 1

Sample Number	2421204-1			Page 2 of 2
Sampled Date	Mar 12, 2024 10:00 AM			
Sample Description	Wachewister			
Contract ID		Plot	B-7	Site
	L.Waka CE3_011_2563			Glory Winner (Thailand) Co., Ltd.
Date Analysis Commenced	Mar 12, 2024			
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers capped for pretreatment - preservation standards: (Alma, USEPA)			
Physical Property	Yellow, a lot of colour, some solid and turbid			

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing 500 (5 days at 20 Degree C)	mg/L	-	2.0	ND.9	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 9210 B, part 9200 - G-G	Bayport
TSS & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 9250 B	Bayport
pH (on site) *				< 8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 9240 - H-H	Bayport

Guideline : Notification of the Industrial Estate Authority of Thailand No.75, B.E. 2550 / Criteria of wastewater characteristic: from factory discharge to central wastewater Treatment Plant
Kamoltip, R. S. Doctor, Chulalongkorn university, B. S. 2531, p.6476

Remark :-

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Author(s): *See above.*

Dirig. Changom
Senhor Mamey
1908/09/08 p. 223

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TESTING
No. 0042

Lot ID: 2421244
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919335-1

Page 1 of 1

Sample Number	242162-1		
Sample Date	Mar 13, 2024 11:27 AM		
Sample Description	Wastewater		
Contract ID	L_CHE_009_Z550	Plot	19-1
Location	SRe Glon IFP Co., Ltd.		
Date Analysis Commenced	Mar 13, 2024		
Condition of Sample	Collected in one amber glass bottle and one plastic bottle. Sample containers comply to preincubation + preservation standards. (APIA + USEPA)		

Physical Property	Yellow, a lot of sediment, some acid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		7.0	49.1	2300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 5210 B, part 5200 - G-5	Baynes
Oil & Grease	mg/L			4	5.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 19th ed., 2017, part 5520 B	Baynes
pH (at site)	°	-	×	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF	Baynes

23rd ed., 2017, part 4500 – I (B)

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560-1 Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant.

Sampling By : Tankit Wongsachai wu.2013.4.9460

The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025.

Approved by:

Dej Changde
Senior Manager
dechangde@163.com

Revised based on the sample(s) as identified, unless the sampling rate specified by ALE. In part of this report it may be represented in the form of a table, without content from the following ALE Laboratory Group (Table(s) should be numbered and the units of the measurements should be full.

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 2421203
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919261-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421203-1
Sample Date Mar 13, 2024 8:30 AM
Sample Description Wastewater
Contract ID L_CIE_011_2550 Plot B-1 Site Hardware King Co.,Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2550 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsochai โทรสาร ๖-323-๙460

Remarks :
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Technical Management: Photchanas S.
Photchanas S.
Scientist (4)
โทรสาร ๖-323-๙446

Approved by: Dej Changthong
Dej Changthong
Senior Manager
โทรสาร ๖-323-๙442

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 2421250
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919246-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421250-1
Sample Date Mar 13, 2024 10:16 AM
Sample Description Wastewater
Contract ID L_CIE_011_2550 Plot B-1 Site Honey Well Electronic Materials (Thailand) Co.,Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	19.8	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1476	≤3000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2550 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsochai โทรสาร ๖-323-๙460, Patarapong Sawangjittam โทรสาร ๖-204-๙095

Remarks :
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Technical Management: Photchanas S.
Photchanas S.
Scientist (4)
โทรสาร ๖-323-๙446

Approved by: Dej Changthong
Dej Changthong
Senior Manager
โทรสาร ๖-323-๙442

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Analysis / Test Report



TESTING
No.0009

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 2421250
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919246-2

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421250-1
Sample Date Mar 13, 2024 10:16 AM
Sample Description Wastewater
Contract ID L_CIE_011_2550 Plot B-1 Site Honey Well Electronic Materials (Thailand) Co.,Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.09	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2550 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsochai โทรสาร ๖-323-๙460, Patarapong Sawangjittam โทรสาร ๖-204-๙092

Remarks :
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- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management: Sawitree N.
Sawitree N.
Manager
โทรสาร ๖-204-๙097

Approved by: Kanokkorn Anuk
Kanokkorn Anuk
Senior Manager
โทรสาร ๖-204-๙004

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

Lot ID: 2421206
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919265-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421206-1
Sample Date Mar 13, 2024 3:50 PM
Sample Description Wastewater
Contract ID L_CIE_011_2550 Plot Z-63 Site Innosaka (Thailand) Co.,Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	24.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	1	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2550 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongsochai โทรสาร ๖-323-๙460

Remarks :
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Technical Management: N. Banthong
Narumon Banthong
Supervisor
โทรสาร ๖-323-๙445

Approved by: Dej Changthong
Dej Changthong
Senior Manager
โทรสาร ๖-323-๙442

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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421149
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919105-1

Page 1 of 1

Sample Number : 2421149-1
Sample Date : Mar 11, 2024 10:25 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2550 Plot : A-7 Site : In-Season Foods Ltd.
Date Analysis Commenced : Mar 11, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	86.3	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L			9	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Pithaya Thonglaeng วิจัยสุภาวดี 3-323-9-9498

Remark :
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Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
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Technical Management :

N. Banchoh

Narumon Banchoh
Supervisor
วิจิตรสุภาวดี 3-323-9-9495

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรสุภาวดี 3-323-9-9492

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421246
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2919238-1

Page 1 of 1

Sample Number : 2421246-1
Sample Date : Mar 12, 2024 11:42 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2558 Plot : H-2 Site : In-Season Foods Co., Ltd.
Date Analysis Commenced : Mar 12, 2024
Condition of Sample : Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	28.8	<300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
COO	mg/L		2.5	152	<750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
Oil & Grease	mg/L		3	<3	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Total Suspended Solids Dried at 103-105 Degree C	mg/L		5	22	<200	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Farinnet Sattayakorn วิจัยสุภาวดี 3-323-9-9496

Remark :
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Technical Management :

N. Banchoh

Narumon Banchoh
Supervisor
วิจิตรสุภาวดี 3-323-9-9495

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรสุภาวดี 3-323-9-9492

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Boin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421185
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919108-1

Page 1 of 1

Sample Number : 2421185-1
Sample Date : Mar 13, 2024 3:45 PM
Sample Description : Wastewater
Contract ID : L_CIE_002_2561 Plot : 7-40 Site : ISHWA PROFILES (THAILAND) CO., LTD.
Date Analysis Commenced : Mar 13, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	21.6	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L			8.3	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai วิจัยสุภาวดี 3-323-9-9499

Remark :
LOD : Limit of Detection
"u" : Lesser than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :

N. Banchoh

Narumon Banchoh
Supervisor
วิจิตรสุภาวดี 3-323-9-9495

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรสุภาวดี 3-323-9-9492

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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421172
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919161-1

Page 1 of 1

Sample Number : 2421172-1
Sample Date : Mar 13, 2024 9:18 AM
Sample Description : Wastewater
Contract ID : L_CIE_002_2560 Plot : B-8E Site : Surjavech LRT Truck Co., Ltd.
Date Analysis Commenced : Mar 13, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	57.3	<500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₂	Rayong
Oil & Grease	mg/L		2	8	<10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai วิจัยสุภาวดี 3-323-9-9499

Remark :
LOD : Limit of Detection
"u" : Lesser than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management :

Photchann S.

Phonhava Sothas
Scientist (4)
วิจิตรสุภาวดี 3-323-9-9498

Approved by :

D. Chumpon

Dej Chumpon
Senior Manager
วิจิตรสุภาวดี 3-323-9-9492

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Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

Lot ID: 2421239
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2019189-1

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Sample Number	2421239-1									
Sampled Date	Mar 13, 2024 2:00 PM									
Sample Description	Wastewater									
Contract ID	L_CIE_002_2561 Plot 7-18 Site KIMSONG ARTWOOD CO.,LTD.									
Date Analysis Commenced	Mar 13, 2024									
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)									
Physical Property	Yellow, a lot of odour, some solid and turbid									
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location			
Water Testing										
BOD (5 days at 20 Degree C)	mg/L	-	2.0	206	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong			
Formaldehyde	mg/L	0.03	0.1	0.3	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Kayong			
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong			
pH (on site) *	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong			

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasak Wongpanich Wittanawatt ๖323-๙9460

Remark :
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Technical Management
Nanamon Banchoykit
Supervisor
Wittanawatt ๖323-๙9460

Approved by
Dej Changchinn
Senior Manager
Wittanawatt ๖323-๙9462

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Lot ID: 2421188
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2019204-1

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Sample Number	2421188-1									
Sampled Date	Mar 13, 2024 10:30 AM									
Sample Description	Wastewater									
Contract ID	L_CIE_016_2557	Plot	2-59A	Site	Kintetsu Logistics (Thailand) Co.,Ltd.					
Date Analysis Commenced	Mar 13, 2024									
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)									
Physical Property	Yellow, a lot of odour, some solid and turbid									
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location			
Water Testing										
BOD (5 days at 20 Degree C)	mg/L	-	2.0	34.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong			
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong			
pH (on site) *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong			

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 - Criteria of wastewater characteristic: from factory discharge to central wastewater Treatment Plant

Sampling By: Tanakul Wongchaisri emw@kintco.com 0-223-44460

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanasak Wongpanich Wittanawatt ๖323-๙9460

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Technical Management
Nanamon Banchoykit
Supervisor
Wittanawatt ๖323-๙9460

Approved by
Dej Changchinn
Senior Manager
Wittanawatt ๖323-๙9462

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Lot ID: 2421177
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2019172-1

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Sample Number	2421177-1								
Sample Date	Mar 11, 2024 2:38 PM								
Sample Description	Wastewater								
Contract ID	L_CIE_013_2550		Plot	7-1		Site	Kitapana (Thailand) Co.,Ltd.		
Date Analysis Commenced	Mar 11, 2024								
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)								
Physical Property	Colorless, odorless, no solid and turbid								
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location		
Water Testing									
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong		
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong		
pH (on site) *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong		

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thongyong Wittanawatt ๖323-๙9466

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Technical Management
Nanamon Banchoykit
Supervisor
Wittanawatt ๖323-๙9460

Approved by
Dej Changchinn
Senior Manager
Wittanawatt ๖323-๙9462

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Thailand 20230

Lot ID: 2421152
Date Received : Mar 11, 2024
Date Reported : Mar 12, 2024
Report Number : 2019113-1

P/O :
Project Name : Factory I Monthly
Project Location: WHA CIE 1

Sample Number	2421152-1						
Sample Date	Mar 11, 2024 11:04 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2556		Plot	B-11C		Site	Kiyantra (Thailand) Co.,Ltd.
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, a lot of odour, some solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	27.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *	-	-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thongyong Wittanawatt ๖323-๙9466

Remark :
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Technical Management
Nanamon Banchoykit
Supervisor
Wittanawatt ๖323-๙9460

Approved by
Dej Changchinn
Senior Manager
Wittanawatt ๖323-๙9462

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P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421227
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2919554-1

Page 1 of 1

Sample Number: 2421227-1
Sample Date: Mar 12, 2024 10:22 AM
Sample Description: Wastewater
Contract ID: L_WHA_CIE_001_2556 Plot: F-14 Site: MAX METAL INTERNATIONAL COMPANY LIMITED
Date Analysis Commenced: Mar 12, 2024
Condition of Sample: Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property: Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	31.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakorn 011-0000000000-9323-9946

Remark :
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Technical Management

N. Banthit

Approved by

D. Chongchon

Narumon Banthit
Supervisor
011-0000000000-9323-9946

Dej Chongchon
Senior Manager
011-0000000000-9323-9946

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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421191
Date Received : Mar 11, 2024
Date Reported : Mar 18, 2024
Report Number : 2919216-1

Page 1 of 1

Sample Number: 2421191-1
Sample Date: Mar 11, 2024 11:25 AM
Sample Description: Wastewater
Contract ID: L_CIE_001_2556 Plot: Z-57 Site: MANTON ENGINEERING (THAILAND) CO., LTD.
Date Analysis Commenced: Mar 11, 2024
Condition of Sample: Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property: Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		3.0	7.6	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanat Wongkajorn 011-0000000000-9323-9946

Remark :
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Technical Management

N. Banthit

Approved by

D. Chongchon

Narumon Banthit
Supervisor
011-0000000000-9323-9946

Dej Chongchon
Senior Manager
011-0000000000-9323-9946

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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421164
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2919140-1

Page 1 of 1

Sample Number: 2421164-1
Sample Date: Mar 12, 2024 2:37 PM
Sample Description: Wastewater
Contract ID: L_CIE_012_2557 Plot: C-2,3,4 Site: NIKAGAWA SPECIAL STEEL (THAILAND) CO., LTD.
Date Analysis Commenced: Mar 12, 2024
Condition of Sample: Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property: Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	7.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanat Wongkajorn 011-0000000000-9323-9946

Remark :
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Technical Management

Photchanas S.

Approved by

D. Chongchon

Photchanas S.
Scientist (4)
011-0000000000-9323-9946

Dej Chongchon
Senior Manager
011-0000000000-9323-9946

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Thailand 20230

P/O :
Project Name : Factory / Monthly
Project Location : WHA CIE 1



TESTING
No.0042

Lot ID: 2421231
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2919360-1

Page 1 of 1

Sample Number: 2421231-1
Sample Date: Mar 12, 2024 2:58 PM
Sample Description: Wastewater
Contract ID: L_WHA_CIE_003_2556 Plot: K2 Site: RAYONG TERMINAL PUBLIC COMPANY LIMITED
Date Analysis Commenced: Mar 12, 2024
Condition of Sample: Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APHA / USEPA)
Physical Property: Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	40.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Raying
Oil & Grease	mg/L		3	4	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Raying
pH (on site) *				7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Raying

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanat Wongkajorn 011-0000000000-9323-9946

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method : value not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

Photchanas S.

Approved by

D. Chongchon

Photchanas S.
Scientist (4)
011-0000000000-9323-9946

Dej Chongchon
Senior Manager
011-0000000000-9323-9946

Result valid for the maximum 10 working days after the sampling was completed by ALS. No part of this report may be reproduced or stored in any form without written consent from the laboratory.

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Analysis / Test Report

TESTING
No.0042

Lot ID: 2421168

Date Received : Mar 11, 2024

Date Reported : Mar 17, 2024

Report Number : 2915195-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number
2421168-1

Sample Date
Mar 11, 2024 10:35 AM

Sample Description
Wastewater

Contract ID
L_CIE_002_2560

Plot
A-8A

Site
HBC Meakhae (Thailand) Co.,Ltd.

Date Analysis Commenced
Mar 11, 2024

Condition of Sample
Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APIHA / USEPA)

Physical Property
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	71.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	7	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thongsaeng วิจัยสุพรรณ ๖323-๖9446

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * refers not included in scope of Accreditation ISO/IEC 17025
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management
N. Banjongkit
Nanamon Banjongkit
Supervisor
วิจิตรสุพรรณ ๖323-๖9446

Approved By
D. Chongchon
Dej Chongchon
Senior Manager
วิจิตรสุพรรณ ๖323-๖9442

Address: 616/10 Moo 9 T. Wangman Khro A. Phukdaeng Rayong 21140 Thailand. PHONE: +66 2 3304 8555 FAX: +66 2 3304 8556
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Analysis / Test Report

TESTING
No.0042

Lot ID: 2421217

Date Received : Mar 13, 2024

Date Reported : Mar 16, 2024

Report Number : 2915195-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number
2421217-1

Sample Date
Mar 13, 2024 9:02 AM

Sample Description
Wastewater

Contract ID
L_WHA_CIE1_001_2565

Plot
B-11D

Site
Nicheya Asia (Thailand) Co.,Ltd.

Date Analysis Commenced
Mar 13, 2024

Condition of Sample
Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APIHA / USEPA)

Physical Property
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	40.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	8	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanont Wongsachai วิจัยสุพรรณ ๖321-๖9460

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * refers not included in scope of Accreditation ISO/IEC 17025
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Technical Management
Photchann S.
Photchann Suda
Supervisor
วิจิตรสุพรรณ ๖323-๖9446

Approved By
D. Chongchon
Dej Chongchon
Senior Manager
วิจิตรสุพรรณ ๖323-๖9442

Address: 616/10 Moo 9 T. Wangman Khro A. Phukdaeng Rayong 21140 Thailand. PHONE: +66 2 3304 8555 FAX: +66 2 3304 8556
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Analysis / Test Report

TESTING
No.0042

Lot ID: 2421245

Date Received : Mar 11, 2024

Date Reported : Mar 17, 2024

Report Number : 2915191-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number
2421245-1

Sample Date
Mar 11, 2024 10:18 AM

Sample Description
Wastewater

Contract ID
L_CIE_018_2560

Plot
A-A

Site
HDEEC Die-casting (Thailand) Co.,Ltd.

Date Analysis Commenced
Mar 11, 2024

Condition of Sample
Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards.
(APIHA / USEPA)

Physical Property
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
COD	mg/L	1.5	25	25	≤750	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Filtered at 103-105 degree C	mg/L	-	5	45	≤200	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thongsaeng วิจัยสุพรรณ ๖323-๖9446

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management
N. Banjongkit
Nanamon Banjongkit
Supervisor
วิจิตรสุพรรณ ๖323-๖9446

Approved By
D. Chongchon
Dej Chongchon
Senior Manager
วิจิตรสุพรรณ ๖323-๖9442

Address: 616/10 Moo 9 T. Wangman Khro A. Phukdaeng Rayong 21140 Thailand. PHONE: +66 2 3304 8555 FAX: +66 2 3304 8556
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Analysis / Test Report

TESTING
No.0042

Lot ID: 2421148

Date Received : Mar 11, 2024

Date Reported : Mar 17, 2024

Report Number : 2915193-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location : WHA CIE 1

Sample Number
2421148-1

Sample Date
Mar 11, 2024 10:13 AM

Sample Description
Wastewater

Contract ID
L_CIE_027_2560

Plot
A-5

Site
HDEEC Die-casting (Thailand) Co.,Ltd.

Date Analysis Commenced
Mar 11, 2024

Condition of Sample
Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
(APIHA / USEPA)

Physical Property
Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	35.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *		-		7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pithaya Thongsaeng วิจัยสุพรรณ ๖323-๖9446

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
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Technical Management
N. Banjongkit
Nanamon Banjongkit
Supervisor
วิจิตรสุพรรณ ๖323-๖9446

Approved By
D. Chongchon
Dej Chongchon
Senior Manager
วิจิตรสุพรรณ ๖323-๖9442

Address: 616/10 Moo 9 T. Wangman Khro A. Phukdaeng Rayong 21140 Thailand. PHONE: +66 2 3304 8555 FAX: +66 2 3304 8556
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TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
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Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 2421198
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2919252-1

Page 1 of 1

Sample Number	2421198-1						
Sample Date	Mar 11, 2024 10:07 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_002_2551	Plot	A-5	Site	HIDEK Die-casting (Thailand) Co., Ltd.		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, some solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	40.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	—	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibbaya Thonglaeng wiboonwatt 9-323-n-9448

Remark :
— LOD : Limit of Detection
— "u" : Lesser than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
— Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
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Technical Management

N. Banchoang

Narumon Banchoang
Supervisor
wiboonwatt 9-323-n-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
wiboonwatt 9-323-n-9442

Result data in the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced or its form without written consent from the laboratory.

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Label : Sample name

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5175-2228-8940



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 2421173
Date Received : Mar 11, 2024
Date Reported : Mar 17, 2024
Report Number : 2619104-1

Page 1 of 1

Sample Number	2421173-1						
Sample Date	Mar 11, 2024 8:43 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_006_2550	Plot	K-1	Site	NKWC PC Aluminium Co., Ltd.		
Date Analysis Commenced	Mar 11, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	49.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	—	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Pibbaya Thonglaeng wiboonwatt 9-323-n-9448

Remark :
— LOD : Limit of Detection
— "u" : Lesser than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
— Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
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Technical Management

N. Banchoang

Narumon Banchoang
Supervisor
wiboonwatt 9-323-n-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
wiboonwatt 9-323-n-9442

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Label : Sample name

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 2421167
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919146-1

Page 1 of 1

Sample Number	2421167-1						
Sample Date	Mar 13, 2024 2:40 PM						
Sample Description	Wastewater						
Contract ID	L_CIE_005_2558	Plot	A-3/Q	Site	Real Chaiyod Engineering Co., Ltd.		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	181	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	—	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanat Wongsapach wiboonwatt 9-323-n-9446

Remark :
— LOD : Limit of Detection
— "u" : Lesser than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
— Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
— The laboratory has been accepted as an accredited laboratory complying with the (ISO/IEC 17025)

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
wiboonwatt 9-323-n-9446

Approved by

D. Changchon

Dej Changchon
Senior Manager
wiboonwatt 9-323-n-9442

Result data in the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced or its form without written consent from the laboratory.

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Label : Sample name

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5175-2228-8940



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Sriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Lot ID: 2421201
Date Received : Mar 18, 2024
Date Reported : Mar 18, 2024
Report Number : 2919257-1

Page 1 of 1

Sample Number	2421201-1						
Sample Date	Mar 13, 2024 10:54 AM						
Sample Description	Wastewater						
Contract ID	L_WHA_CIE1_004_2563	Plot	Z-5/H Z-5/H1	Site	Kritthiw (Thailand) Co., Ltd.		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.						
Physical Property	(APHA / USEPA) Yellow, a lot of odour, solid and some turbid						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	—	2.0	54.8	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Rayong
Oil & Grease	mg/L	—	—	5	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Tanat Wongsapach wiboonwatt 9-323-n-9446

Remark :
— LOD : Limit of Detection
— "u" : Lesser than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
— Analytical method * value not included in scope of Accreditation (ISO/IEC 17025)
— The laboratory has been accepted as an accredited laboratory complying with the (ISO/IEC 17025)

Technical Management

N. Banchoang

Narumon Banchoang
Supervisor
wiboonwatt 9-323-n-9445

Approved by

D. Changchon

Dej Changchon
Senior Manager
wiboonwatt 9-323-n-9442

Result data in the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced or its form without written consent from the laboratory.

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Label : Sample name

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5175-2228-8940



Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421190
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2919207-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421190-1
Sampled Date Mar 13, 2024 10:51 AM
Sample Description Wastewater
Contract ID L_CIE_001_2561 Plot Z-501 Site Railway (Thailand) Limited
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	188	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O.D.	Rayong
Oil & Grease	mg/L	-	3	6	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai วิธนาสาร ๖323-๖9460

Remark:
LOD : Limit of Detection
"LOQ" : Lower Limit of Quantitation / LOR (Limit of Reporting)
Analytical method * where not included in scope of Accreditation ISO/IEC 17025.
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management: N. Banphit
Narumon Banphongkiet
Supervisor
วิธนาสาร ๖323-๖9460
Approved by: D. Chongchon
Dej Chongchon
Senior Manager
วิธนาสาร ๖323-๖9460

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421160
Date Received : Mar 12, 2024
Date Reported : Mar 16, 2024
Report Number : 2919196-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421160-1
Sampled Date Mar 12, 2024 11:35 AM
Sample Description Wastewater
Contract ID L_CIE_014_2560 Plot D-12/7A Site S.O. TANK CLEANING TERMINAL CO., Ltd.
Date Analysis Commenced Mar 12, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	73.7	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O.D.	Rayong
Oil & Grease	mg/L	-	3	10	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Paramet Sattapachon วิธนาสาร ๖323-๖9476

Remark:
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Analytical method * where not included in scope of Accreditation ISO/IEC 17025.
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Technical Management: N. Banphit
Narumon Banphongkiet
Supervisor
วิธนาสาร ๖323-๖9460
Approved by: D. Chongchon
Dej Chongchon
Senior Manager
วิธนาสาร ๖323-๖9460

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Analysis / Test Report



TESTING
No.0042

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siracha, Chonburi
Thailand 20230

Lot ID: 2421184
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2919196-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421184-1
Sampled Date Mar 13, 2024 2:27 PM
Sample Description Wastewater
Contract ID L_CIE_010_2556 Plot Z-32 Site Sali Industry (Thailand) Co., Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	14.3	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O.D.	Rayong
Oil & Grease	mg/L	-	3	9	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai วิธนาสาร ๖323-๖9460

Remark:
LOD : Limit of Detection
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Analytical method * where not included in scope of Accreditation ISO/IEC 17025.
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Technical Management: N. Banphit
Narumon Banphongkiet
Supervisor
วิธนาสาร ๖323-๖9460
Approved by: D. Chongchon
Dej Chongchon
Senior Manager
วิธนาสาร ๖323-๖9460

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Thailand 20230

Lot ID: 2421183
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2919194-1

P/O :
Project Name : Factory Monthly
Project Location: WHA CIE 1

Page 1 of 1

Sample Number 2421183-1
Sampled Date Mar 13, 2024 2:21 PM
Sample Description Wastewater
Contract ID L_CIE_032_2556 Plot Z-31 Site Sakura Industry (Thailand) Co., Ltd.
Date Analysis Commenced Mar 13, 2024
Condition of Sample Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.
Physical Property Yellow, a lot of odour, solid and some turbid

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	109	≤500	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O.D.	Rayong
Oil & Grease	mg/L	-	3	9	≤10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasit Wongpachai วิธนาสาร ๖323-๖9460

Remark:
LOD : Limit of Detection
"LOQ" : Lower Limit of Quantitation / LOR (Limit of Reporting)
Analytical method * where not included in scope of Accreditation ISO/IEC 17025.
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Technical Management: N. Banphit
Narumon Banphongkiet
Supervisor
วิธนาสาร ๖323-๖9460
Approved by: D. Chongchon
Dej Chongchon
Senior Manager
วิธนาสาร ๖323-๖9460

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2421241

Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919234-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Srinacha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421241-1						
Sampled Date	Mar 13, 2024 10:41 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2555	Plot	C-5,6	Site	SANG CHAREON EASTERN GALVANIZE CO.,LTD		
Date Analysis Commenced	Mar 13, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Samples (containers) comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, a lot of solid and some turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Rayong
COD	mg/L	1.5	25	28	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L		3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5120 B	Rayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9100 - H (B)	Rayong
Total Dissolved Solids (TDS) at 180 degree C	mg/L		5	228	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant.
Sampling By : Tanont Wongpachai วิเศษวานิช >323-9-9400 / Pattarapol Saengjittam วิเศษวานิช >204-9-0002

Remarks:
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- "<" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
- Analyte(s) marked * refers not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchanas S.

Photchanas Senda
Senior Manager
วิเศษวานิช >323-9-9400

Approved by

D. J. J. J.

Daj Chongchou
Senior Manager
วิเศษวานิช >323-9-9402

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Analysis / Test Report



TESTING
No.0009

Lot ID: 2421241

Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919234-2

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Srinacha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421241-1						
Sampled Date	Mar 13, 2024 10:41 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2555	Plot	C-5,6	Site	SANG CHAREON EASTERN GALVANIZE CO.,LTD		
Date Analysis Commenced	Mar 14, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, a lot of solid and some turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.002	≤0.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.06	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok

Guideline: / Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560: Criteria of wastewater characteristics from factory discharges to central wastewater treatment plant

Sampling By: Tannet Wongsakulchai Wongsakulchai 3-321-9-940, Pattaraporn Sewonjaglam Wongsakulchai 9-204-0-000

Remarks:

- LOD : Limit of Detection
- LOQ : Lower Limit of Quantitation / LOQ (Limit of Reporting)
- Analytical method : Value not included in scope of Accredited ISO/IEC 17025.
- This laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant.
Sampling By : Tanont Wongpachai วิเศษวานิช >323-9-9400 / Pattarapol Saengjittam วิเศษวานิช >204-9-0002

Remarks:
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- "<" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Savitree N.

Savitree Nongniam
Manager
วิเศษวานิช >204-9-0007

Approved by

Kamkorn Anet

Kamkorn Anet
Senior Manager
วิเศษวานิช >204-9-0004

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Analysis / Test Report



TESTING
No.0009

Lot ID: 2421241

Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919234-3

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Srinacha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421241-1						
Sampled Date	Mar 13, 2024 10:41 AM						
Sample Description	Wastewater						
Contract ID	L_CIE_001_2555	Plot	C-5,6	Site	SANG CHAREON EASTERN GALVANIZE CO.,LTD		
Date Analysis Commenced	Mar 14, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						
Physical Property	Yellow, some odour, a lot of solid and some turbid						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.12	≤10.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant.
Sampling By : Tanont Wongpachai วิเศษวานิช >323-9-9400 / Pattarapol Saengjittam วิเศษวานิช >204-9-0002

Remarks:
- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantification) / LOQ (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchanas S.

Photchanas Senda
Senior Manager
วิเศษวานิช >323-9-9400

Approved by

Savitree N.

Savitree Nongniam
Manager
วิเศษวานิช >204-9-0007

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TESTING
No.0042

Lot ID: 2421179

Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2919180-1

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Srinacha, Chonburi
Thailand 20230

P/O :
Project Name : Factory I Monthly
Project Location : WHA CIE 1

Page 1 of 1

Sample Number	2421179-1							Page 2 of 2
Sampled Date	Mar 12, 2024 10:36 AM							
Sample Description	Wastewater							
Contract ID	L_CIE_018_2557	Plot	F-15	Site	SET (Thailand) Co.,Ltd.			
Date Analysis Commenced	Mar 12, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)							
Physical Property	Yellow, a lot of odor, some solid and turbid							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
BOD (5 days at 20 Degree C)	mg/L		2.0	61.7	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O ₅	Rayong	
Oil & Grease	mg/L			8	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5120 B	Rayong	
pH (on site) *				7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9100 - H (B)	Rayong	

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater treatment plant.
Sampling By : Param Sattayakorn วิเศษวานิช >323-9-9406

Remarks:
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Technical Management

N. Banthit

Narumon Banthit
Supervisor
วิเศษวานิช >323-9-9405

Approved by

D. J. J. J.

Daj Chongchou
Senior Manager
วิเศษวานิช >323-9-9402

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P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 2421157
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2519125-1

Page 1 of 1

Sample Number : 2421157-1
Sampled Date : Mar 12, 2024 2:32 PM
Sample Description : Wastewater
Contract ID : L_CIE_015_2550 Plot : D-4 Site : Tritel Plus (Thailand) Co., Ltd.
Date Analysis Commenced : Mar 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	33.6	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L			3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุขารักษ์ 323-9-9476

Remark :
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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
วิเศษสุขารักษ์ 323-9-9476

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
วิเศษสุขารักษ์ 323-9-9476

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Analysis / Test Report

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331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 2421165
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2519142-1

Page 1 of 1

Sample Number : 2421165-1
Sampled Date : Mar 12, 2024 11:48 AM
Sample Description : Wastewater
Contract ID : L_CIE_003_2558 Plot : H-3 Site : Tayin Kessens Auto Parts (THAILAND) Co., Ltd.
Date Analysis Commenced : Mar 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)
Physical Property : Yellow, a lot of odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	81.1	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L			3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุขารักษ์ 323-9-9476

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * where not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
วิเศษสุขารักษ์ 323-9-9476

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
วิเศษสุขารักษ์ 323-9-9476

Result valid if the description is confirmed, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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RIGHT SOLUTIONS RIGHT PART TITRUM

5 (Thailand) AL-02-03 (03/04/2024)



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 2421238
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2519155-1

Page 1 of 1

Sample Number : 2421238-1
Sampled Date : Mar 12, 2024 10:29 AM
Sample Description : Wastewater
Contract ID : L_CIE_013_2560 Plot : H-13A Site : Thai Eastern Precision Co., Ltd.
Date Analysis Commenced : Mar 12, 2024
Condition of Sample : Contained in one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	85.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
COD	mg/L		1.5	25	≤250	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Kayong
Oil & Grease	mg/L			3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Total Dissolved Solids Dried at 180 degree C	mg/L		5	380	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Kayong
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	71	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุขารักษ์ 323-9-9476

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
วิเศษสุขารักษ์ 323-9-9476

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
วิเศษสุขารักษ์ 323-9-9476

Result valid if the description is confirmed, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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RIGHT SOLUTIONS RIGHT PART TITRUM

5 (Thailand) AL-02-03 (03/04/2024)



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
331/8-9 Moo 6, High Way No.331 Road, Tambol Bowin, Amphur Siriracha, Chonburi
Thailand 20230

P/O :
Project Name : Factory 1 Monthly
Project Location: WHA CIE 1



TESTING
No.0042

Lot ID: 2421159
Date Received : Mar 12, 2024
Date Reported : Mar 18, 2024
Report Number : 2519127-1

Page 1 of 1

Sample Number : 2421159-1
Sampled Date : Mar 12, 2024 11:06 AM
Sample Description : Wastewater
Contract ID : L_CIE_007_2558 Plot : D-12/1A Site : THAI ESCORP LTD
Date Analysis Commenced : Mar 12, 2024
Condition of Sample : Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)
Physical Property : Yellow, a lot of odour, some solid and turbid

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L		2.0	35.4	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O-G	Kayong
Oil & Grease	mg/L			3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Kayong
pH (on site) *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Kayong

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By : Paramet Sattayakun วิเศษสุขารักษ์ 323-9-9476

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Technical Management

N. Banjongkit

Narumon Banjongkit
Supervisor
วิเศษสุขารักษ์ 323-9-9476

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
วิเศษสุขารักษ์ 323-9-9476

Result valid if the description is confirmed, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.

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5 (Thailand) AL-02-03 (03/04/2024)



TESTING
No.0042

Lot ID: 2421243
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919236-1



TESTING
No.0009

Lot ID: 2421243
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919236-2

Sample Number	2402149-1							
Sampled Date	Mar 13, 2024 2:08 PM							
Sample Description	Wastewater							
Contract ID	L_CIE_P01_2359	Pilot	D-F	Site	Thái Huawei Battery Co., Ltd.			
Date Analysis Commenced	Mar 14, 2024							
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample containers comply to pretreatment - preservation standards.							
Physical Property	(APHA / USEPA) Colorless, some odour, solid and not turbid.							
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method Testing Location		
Hetals Testing								
Lead	mg/L	0.0003	0.0005	0.002	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF; 23rd ed., 2017, part 3123 B, 3030 F Bangkok		
Guideline: Notification of the Industrial Estate Authority of Thailand No.76/B.E.2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant								
Sampling by: Tanat Vongsachal วังสุจริต ๖-323-๔5400 , Pattasopit Sawangjakom สว่างจกอม ๖-204-๙0002								
Remark :								
— LOD = Limit of Detection								
"—<" = Lower than LOQ (Limit of Quantitation) ; LOR (Limit of Reporting)								
Analyte(s) marked * are not included in scope of Accreditation ISO/IEC 17025.								
— The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.								

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling By: Tansot Wongsachal veruwanan ๖-323-๖-๕400, Pattaporn Sawangjittam veruwanan ๖-204-๖-0002

Remark:

- LOQ : Limit of Detection
- < : Lower than LOQ (Limit of Quantitation) ; LOR (Limit of Reporting)
- Anal.(s) marked * where not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Deadline: Notification of the Industrial Estate Authority of Thailand No. RA. 86. 2360 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sending By : Tanont Wongtashul m.06050447 +321e+9406 , Pattaraporn Sawangjiam m.06050447 +294+0002

Remark :

- LOD (Limit of Detection)
- L_{0.05} : Lower than LOD (Limit of Quantitation) 1/100 (Level of Reporting)
- Analyte(s) marked * refers not included in scope of Accreditation SI (006) 17025.

The analysis has been completed on an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchanas.
Photchanas Seeda
Scientist (A)
โทรศัพท์มือถือ +323-4-4440

Approved by

D. Chuan.
Dej Chanchon
Senior Manager
โทรศัพท์มือถือ +323-4-4442

Technical Management Savitree N. Approved by Caroline Auk
 Savitree Pannangam
 Manager
 โทรศัพท์ ๖-๒๐4-๖๐๐7
 Caroline Auk
 Senior Manager
 โทรศัพท์ ๖-๒๐4-๖๐๐4

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TESTING
No. 0042

Lot ID: 2421230
Date Received : Mar 13, 2024
Date Reported : Mar 16, 2024
Report Number : 2019359-1



TESTING
No. 0042

Lot ID: 2421225
Date Received : Mar 13, 2024
Date Reported : Mar 18, 2024
Report Number : 2919330-1

Sample Number	2421225-1									
Sample Date	Mar 13, 2024, 1:50 PM									
Sample Description	Wastewater									
Contract ID	LC_081_01_2360									
Plot	E6			Site	Thai Ruong Union Car Public Co., Ltd.					
Date Analysis Commenced	Mar 13, 2024									
Condition of Sample	Contained in one amber glass bottle and one plastic bottle. Sample contained (empty to pretreatment) - preservation standards: (APIA) + USEPA									
Physical Property	Yellow, a lot of odour, some solid and turbid									
Analyte	Unit	LOD	LOQ (LO)	Result	Guideline / Specification	Method	Testing Location			
Water Testing										
BOD (5 days at 20 Degree C)	mg/L	-	2.0	57.1	<500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O D	Bayern			
TN & Grease	mg/L	-	2	8	<10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5200 B	Bayern			
pH (on site) *	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bayern			

Guideline: Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 - Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

Sampling by: Tansat Wongsaichai โทร.02-932-4940

Name's:

- LOQ (Limit of Detection)
- "C" (Lower than LOQ (Limit of Quantitation)) LOH (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Guideline : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 / Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant
Sampling By : Tanasat Wongpaiboi หรือผู้แทนที่ ๖-223-๙-9460

Remarks :
 LOQ = Limit of Detection
 * c_t = Layer than LOQ (Limit of Quantitation) / LOD (Limit of Reporting)
 - Analytical method : where not included in scope of Accreditation ISO/IEC 17025.

Technical Management Photchanas S. Approved by D. Chanchon

Photchanas Seede
Secretary (4)
โทร (กรุงเทพฯ) ๖-323-๖5416 Dej Chanchon
Senior Manager
โทร (กรุงเทพฯ) ๖-323-๖5412

Technical Management Photchanan S. Approved by D. Chingchon
 Photchanan Senda Dej Chingchon
 Scientist (4) Senior Manager
 โทรศัพท์ ๙-323-๙946 โทรสาร ๙-323-๙940

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