

ภาคผนวก ค

เอกสารประกอบมาตรการการติดตามตรวจสอบ

ผลกระทบสิ่งแวดล้อม

ภาคผนวก ค-1

ใบรับรองผลการวิเคราะห์

คุณภาพอากาศในบรรยากาศ



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 262409

Date Received : Jan 13, 2026
Date Reported : Jan 31, 2026
Report Number : 3485399-1

Page 1 of 2

Sample Number 262409-1
Sampled Date Jan 12, 2026
Sample Description Air Quality
Location รีมขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ
Date Analysis Commenced Jan 14, 2026
Condition of Sample Drawn into one 6-L Canister, one amber plastic bottle and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.9 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	12/01/26 - 13/01/26	ug/m3	0.02	0.06	20.8	No Standard	Based on U.S. Environmental Protection Agency Compendium Method	-	Bangkok
n-Hexane *	12/01/26 - 13/01/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	12/01/26 - 13/01/26	mg/m3	-	0.002	0.050	0.12	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB No.24 Rayong	

Guideline :

NEB No.24 : Notification of the National Environmental Board. No.24, 2004 (B.E.2547) dated September 22, 2004

Sampled By : Pipat Nipatsed , Nontachai Uppathamp

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.

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 262409

Date Received : Jan 13, 2026
Date Reported : Jan 31, 2026
Report Number : 3485399-1

Page 2 of 2

Sample Number 262409-2
Sampled Date Jan 12, 2026
Sample Description Air Quality
Location รีมขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้
Date Analysis Commenced Jan 14, 2026
Condition of Sample Drawn into one 6-L Canister, one amber plastic bottle and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.9 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	12/01/26 - 13/01/26	ug/m3	0.02	0.06	31.0	No Standard	Based on U.S. Environmental Protection Agency Compendium Method	-	Bangkok
n-Hexane *	12/01/26 - 13/01/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	12/01/26 - 13/01/26	mg/m3	-	0.002	0.052	0.12	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB No.24 Rayong	

Guideline :

NEB No.24 : Notification of the National Environmental Board. No.24, 2004 (B.E.2547) dated September 22, 2004

Sampled By : Pipat Nipatsed , Nontachai Uppathamp

Remark :

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No.0042

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10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265660

Date Received : Feb 18, 2026
Date Reported : Mar 12, 2026
Report Number : 3491075-1

Page 1 of 2

Sample Number : 265660-1
Sampled Date : Feb 17, 2026
Sample Description : Air Quality
Location : ร่มขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ (GPS 47P 0731979, 1405040)
Date Analysis Commenced : Feb 19, 2026
Condition of Sample : Drawn into one filter paper placed in plastic cassette, one 6-L Canister and one sorbent tube, refrigerated
Barometric Pressure : 755 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	17/02/26 - 18/02/26	ug/m3	0.02	0.06	58.20	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO-15	-	Bangkok
n-Hexane *	17/02/26 - 18/02/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	17/02/26 - 18/02/26	ug/m3	-	2.0	20.5	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Jaradrawee Sriurksa

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265660

Date Received : Feb 18, 2026
Date Reported : Mar 12, 2026
Report Number : 3491075-1

Page 2 of 2

Sample Number 265660-2
Sampled Date Feb 17, 2026
Sample Description Air Quality
Location รีมขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้ (GPS 47P 0731914, 1404971)
Date Analysis Commenced Feb 19, 2026
Condition of Sample Drawn into one filter paper placed in plastic cassette, one 6-L Canister and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	17/02/26 - 18/02/26	ug/m3	0.02	0.06	90.31	No Standard	Based on U.S. Environmental Protection Agency Compendium Method TO-15	-	Bangkok
n-Hexane *	17/02/26 - 18/02/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	17/02/26 - 18/02/26	ug/m3	-	2.0	19.7	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Jaradrawee Sriuksa

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610004

Date Received : Mar 27, 2026
Date Reported : Apr 20, 2026
Report Number : 3499024-1

Page 1 of 2

Sample Number 2610004-1
Sampled Date Mar 26, 2026
Sample Description Air Quality
Location ร่มขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ (GPS 47P 0731979, 1405040)
Date Analysis Commenced Mar 28, 2026
Condition of Sample Drawn into one 6-L Canister, one quartz filter paper (8x10 inch) placed in plastic bag and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	26/03/26 - 27/03/26	ug/m3	0.02	0.06	44.9	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO-15	-	Bangkok
n-Hexane *	26/03/26 - 27/03/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	26/03/26 - 27/03/26	mg/m3	-	0.002	0.023	0.10	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Santi Chaichana

Remark :

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610004

Date Received : Mar 27, 2026
Date Reported : Apr 20, 2026
Report Number : 3499024-1

Page 2 of 2

Sample Number 2610004-2
Sampled Date Mar 26, 2026
Sample Description Air Quality
Location ริมขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้ (GPS 47P 0731914, 1404971)
Date Analysis Commenced Mar 28, 2026
Condition of Sample Drawn into one 6-L Canister, one quartz filter paper (8x10 inch) placed in plastic bag and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	26/03/26 - 27/03/26	ug/m3	0.02	0.06	57.5	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO-15	-	Bangkok
n-Hexane *	26/03/26 - 27/03/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	26/03/26 - 27/03/26	mg/m3	-	0.002	0.022	0.10	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Santi Chaichana

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P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623222

Date Received : Apr 10, 2026
Date Reported : Apr 29, 2026
Report Number : 3528316-1

Page 1 of 2

Sample Number 2623222-1
Sampled Date Apr 09, 2026
Sample Description Air Quality
Location ริมขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ (GPS 47P 0731979, 1405040)
Date Analysis Commenced Apr 16, 2026
Condition of Sample Drawn into one 6-L Canister, one quartz filter paper (8x10 inch) placed in plastic bag, one sorbent tube, refrigerated
Barometric Pressure 758 mmHg
Atmospheric Temperature 31.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	09/04/26 - 10/04/26	ug/m3	0.02	0.06	51.7	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO-15	-	Bangkok
n-Hexane *	09/04/26 - 10/04/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	09/04/26 - 10/04/26	ug/m3	-	2.0	16.6	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Siriwit Ruangsom

Remark :

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623222

Date Received : Apr 10, 2026
Date Reported : Apr 29, 2026
Report Number : 3528316-1

Page 2 of 2

Sample Number 2623222-2
Sampled Date Apr 09, 2026
Sample Description Air Quality
Location ริมขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้ (GPS 47P 0731914, 1404971)
Date Analysis Commenced Apr 16, 2026
Condition of Sample Drawn into one 6-L Canister, one quartz filter paper (8x10 inch) placed in plastic bag, one sorbent tube, refrigerated
Barometric Pressure 758 mmHg
Atmospheric Temperature 31.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	09/04/26 - 10/04/26	ug/m3	0.02	0.06	114	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO-15	-	Bangkok
n-Hexane *	09/04/26 - 10/04/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	09/04/26 - 10/04/26	ug/m3	-	2.0	16.5	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., 2026 (B.E.2569) dated January 21, 2026

Sampled By : Siriwit Ruangsom

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P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630010

Date Received : May 15, 2026
Date Reported : May 28, 2026
Report Number : 3545535-1

Page 1 of 2

Sample Number 2630010-1
Sampled Date May 14, 2026
Sample Description Air Quality
Location รีมขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ (GPS 47P 0731979, 1405040)
Date Analysis Commenced May 16, 2026
Condition of Sample Drawn into one 6-L Canister, one filter paper placed in plastic cassette and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	14/05/26 - 15/05/26	ug/m3	0.02	0.06	15.1	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO15	-	Bangkok
n-Hexane *	14/05/26 - 15/05/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10 *	14/05/26 - 15/05/26	ug/m3	-	2.0	10.7	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., B.E.2569 (2026) dated January 21, 2026

Sampled By : Adisak Tarisoorn

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P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630010

Date Received : May 15, 2026
Date Reported : May 28, 2026
Report Number : 3545535-1

Page 2 of 2

Sample Number 2630010-2
Sampled Date May 14, 2026
Sample Description Air Quality
Location ร่มขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้ (GPS 47P 0731914, 1404971)
Date Analysis Commenced May 16, 2026
Condition of Sample Drawn into one 6-L Canister, one filter paper placed in plastic cassette and one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	14/05/26 - 15/05/26	ug/m3	0.02	0.06	33.7	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO15	-	Bangkok
n-Hexane *	14/05/26 - 15/05/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10 *	14/05/26 - 15/05/26	ug/m3	-	2.0	11.8	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

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Sampled By : Adisak Tarisoon

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Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2643171

Date Received : Jun 09, 2026
Date Reported : Jun 24, 2026
Report Number : 3573862-1

Page 1 of 2

Sample Number 2643171-1
Sampled Date Jun 08, 2026
Sample Description Air Quality
Location ริมขอบพื้นที่โรงงาน HDPE1 ด้านทิศเหนือ (GPS 47P 0731979, 1405040)
Date Analysis Commenced Jun 10, 2026
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag, one 6-L Canister and one sorbent tube, refrigerated
Barometric Pressure 753 mmHg
Atmospheric Temperature 30.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	08/06/26 - 09/06/26	ug/m3	0.02	0.06	8.25	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO 15	-	Bangkok
n-Hexane *	08/06/26 - 09/06/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	08/06/26 - 09/06/26	ug/m3	-	2.0	19.5	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., B.E.2569 (2026) dated January 21, 2026

Sampled By : Adisak Tarisoorn

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2643171

Date Received : Jun 09, 2026
Date Reported : Jun 24, 2026
Report Number : 3573862-1

Page 2 of 2

Sample Number 2643171-2
Sampled Date Jun 08, 2026
Sample Description Air Quality
Location ร่มขอบพื้นที่โรงงาน HDPE1 ด้านทิศใต้ (GPS 47P 0731914, 1404971)
Date Analysis Commenced Jun 10, 2026
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag, one 6-L Canister and one sorbent tube, refrigerated
Barometric Pressure 753 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene *	08/06/26 - 09/06/26	ug/m3	0.02	0.06	16.4	No Standard	Based on U.S. Environmental Protection Agency Compendium Method, TO 15	-	Bangkok
n-Hexane *	08/06/26 - 09/06/26	ppm	-	0.10	<0.10	No Standard	NIOSH (2003), 1500	-	Bangkok
Particulate matter as PM 10	08/06/26 - 09/06/26	ug/m3	-	2.0	17.2	100	United States Environmental Protection Agency 40 CFR, method 50, Appendix J, revised as of July 1, 2008 (Include sampling)	NEB	Rayong

Guideline :

NEB : Notification of the National Environmental Board., B.E.2569 (2026) dated January 21, 2026

Sampled By : Adisak Tarisoorn

Remark :

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 262279

Date Received : Jan 09, 2026

Date Reported : Jan 16, 2026

Report Number : 3484983-1

Page 1 of 1

Sample Number	262279-1
Sampled Date	Jan 09, 2026 10:59 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Jan 09, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	167	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Settleable Solid *	mL/L/hr	-	0.1	0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Sulfide *	mg/L	-	0.5	7.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	484	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	64.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	28	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wasan Kinunti

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Approved by

Photchana S

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265675

Date Received : Feb 06, 2026

Date Reported : Feb 13, 2026

Report Number : 3491094-1

Page 1 of 1

Sample Number	265675-1
Sampled Date	Feb 06, 2026 10:58 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	139	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	22	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	5.9	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	448	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	78.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	34	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019

Remark :

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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265675

Date Received : Feb 06, 2026
Date Reported : Feb 13, 2026
Report Number : 3491094-2

Page 1 of 1

Sample Number 265675-1
Sampled Date Feb 06, 2026 10:58 AM
Sample Description Wastewater
Location บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced Feb 10, 2026
Condition of Sample Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Settleable Solid	mL/L/hr	-	0.1	0.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong

Sampling By : Wasan Kinunti

Remark :

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Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610281

Date Received : Mar 06, 2026

Date Reported : Mar 13, 2026

Report Number : 3499629-1

Page 1 of 1

Sample Number	2610281-1
Sampled Date	Mar 06, 2026 11:15 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	171	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	9.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	340	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	90.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	35	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

Remark :

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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610281

Date Received : Mar 06, 2026

Date Reported : Mar 13, 2026

Report Number : 3499629-2

Page 1 of 1

Sample Number 2610281-1
Sampled Date Mar 06, 2026 11:15 AM
Sample Description Wastewater
Location บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced Mar 09, 2026
Condition of Sample Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Settleable Solid	mL/L/hr	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong

Sampling By : Sansoen Khuiyoksui

Remark :

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Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623229

Date Received : Apr 03, 2026
Date Reported : Apr 10, 2026
Report Number : 3528320-1

Page 1 of 1

Sample Number	2623229-1
Sampled Date	Apr 03, 2026 10:40 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Apr 03, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	173	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	15	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	6.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	328	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	72.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	33	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623229

Date Received : Apr 03, 2026

Date Reported : Apr 10, 2026

Report Number : 3528320-2

Page 1 of 1

Sample Number 2623229-1
Sampled Date Apr 03, 2026 10:40 AM
Sample Description Wastewater
Location บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced Apr 06, 2026
Condition of Sample Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Settleable Solid	mL/L/hr	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong

Sampling By : Sansoen Khuiyoksui

Remark :

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

Approved by

PhotchanaS

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630037

Date Received : May 08, 2026
Date Reported : May 15, 2026
Report Number : 3545568-1

Page 1 of 1

Sample Number	2630037-1
Sampled Date	May 08, 2026 10:57 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	135	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	14	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	5.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	352	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	53.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	22	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023

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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630037

Date Received : May 08, 2026
Date Reported : May 15, 2026
Report Number : 3545568-2

Page 1 of 1

Sample Number	2630037-1					
Sampled Date	May 08, 2026 10:57 AM					
Sample Description	Wastewater					
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1					
Date Analysis Commenced	May 11, 2026					
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Settleable Solid	mL/L/hr	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong

Sampling By : Phongthep Sitthiloh

Remark :

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

Approved by

PhotchanaS

Photchana Seeda
Scientist (4)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2643177

Date Received : Jun 05, 2026
Date Reported : Jun 12, 2026
Report Number : 3573920-1

Page 1 of 1

Sample Number	2643177-1
Sampled Date	Jun 05, 2026 11:25 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Jun 05, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	146	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	7.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	420	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	84.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	16	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand
21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2643177

Date Received : Jun 05, 2026

Date Reported : Jun 12, 2026

Report Number : 3573920-2

Page 1 of 1

Sample Number	2643177-1
Sampled Date	Jun 05, 2026 11:25 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งรวมของอาคารสำนักงานในพื้นที่ TPE Site#1
Date Analysis Commenced	Jun 08, 2026
Condition of Sample	Contained in one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Settleable Solid	mL/L/hr	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong

Sampling By : Sansoen Khuiyoksui

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 262280

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485185-1

Page 1 of 2

Sample Number	262280-1
Sampled Date	Jan 09, 2026 10:42 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Jan 09, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.9	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	78	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	43	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 262280

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485185-1

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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019 , Kadbundit Kitisupavanit ทะเบียนเลขที่ ว-204-จ-0001

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

PhotchanaS

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 262280

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485185-2

Page 1 of 1

Sample Number	262280-1
Sampled Date	Jan 09, 2026 10:42 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Jan 13, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	0.772	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Wasan Kinunti , Kardbundit Kitissupavanit

Remark :

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

Approved by

Suwimon C.

Suwimon Chairuangwut
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 265678

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491099-1

Page 1 of 2

Sample Number	265678-1
Sampled Date	Feb 06, 2026 10:40 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	36.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	268	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	39	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Changchon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 265678

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491099-1

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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019

Remark :

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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 265678

Date Received : Feb 06, 2026
Date Reported : Feb 14, 2026
Report Number : 3491099-2

Page 1 of 1

Sample Number	265678-1
Sampled Date	Feb 06, 2026 10:40 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Feb 07, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	0.123	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Wasan Kinunti

Remark :

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

Approved by

Nanthawadee Somboon
Specialist 2

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2610282

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499630-1

Page 1 of 2

Sample Number	2610282-1
Sampled Date	Mar 06, 2026 10:00 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.0	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	260	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	15	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2610282

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499630-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610282

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499630-2

Page 1 of 1

Sample Number	2610282-1
Sampled Date	Mar 06, 2026 10:00 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Mar 09, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	0.167	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Sansoen Khuiyoksui

Remark :

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

Approved by

Suwimon C.

Suwimon Chairuangwut
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2623232

Date Received : Apr 09, 2026

Date Reported : Apr 21, 2026

Report Number : 3528322-1

Page 1 of 2

Sample Number	2623232-1
Sampled Date	Apr 09, 2026 9:30 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Apr 09, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	31	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	38.7	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	70	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	40	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Life Sciences

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2623232

Date Received : Apr 09, 2026

Date Reported : Apr 21, 2026

Report Number : 3528322-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2623232

Date Received : Apr 09, 2026

Date Reported : Apr 22, 2026

Report Number : 3528322-2

Page 1 of 1

Sample Number	2623232-1
Sampled Date	Apr 09, 2026 9:30 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Apr 10, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	1.451	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Sansoen Khuiyoksui

Remark :

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

Approved by

Nanthawadee Somboon
Specialist 2

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630053

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545572-1

Page 1 of 2

Sample Number	2630053-1
Sampled Date	May 08, 2026 10:30 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	38.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	218	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	11	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2630053

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545572-1

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 : Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

PhotchanaS

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630053

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545572-2

Page 1 of 1

Sample Number 2630053-1
Sampled Date May 08, 2026 10:30 AM
Sample Description Wastewater
Location หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced May 11, 2026
Condition of Sample Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	0.336	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Phongthep Sitthiloh

Remark :

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

Approved by

Suwimon C.

Suwimon Chairuangwut
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630057

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3545577-1

Page 1 of 2

Sample Number	2630057-1
Sampled Date	Jun 05, 2026 10:50 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Jun 05, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	<5	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	39.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	164	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	19	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630057

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3545577-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630057

Date Received : Jun 05, 2026

Date Reported : Jun 12, 2026

Report Number : 3545577-2

Page 1 of 1

Sample Number	2630057-1
Sampled Date	Jun 05, 2026 10:50 AM
Sample Description	Wastewater
Location	หลังผ่าน API Separator ของโรงงาน HDPE#1
Date Analysis Commenced	Jun 09, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
n-Hexane	mg/L	-	0.001	0.059	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 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 : Sansoen Khuiyoksui , Akkarin Budsaktee

Remark :

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

Approved by

Suwimon C.

Suwimon Chairuangwut
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 262283

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485218-1

Page 1 of 2

Sample Number	262283-1
Sampled Date	Jan 09, 2026 10:48 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Jan 09, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	5.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	36	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	9	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	8	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	28.9	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	552	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	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, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 262283

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485218-1

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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019 , Kadbundit Kitisupavanit ทะเบียนเลขที่ ว-204-จ-0001

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 262283

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485218-2

Page 1 of 1

Sample Number	262283-1						
Sampled Date	Jan 09, 2026 10:48 AM						
Sample Description	Wastewater						
Location	Final Check Pond ของโรงงาน LDPE						
Date Analysis Commenced	Jan 09, 2026						
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	127	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	9.91	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Wasan Kinunti , Kardbundit Kitissupavanit

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 265681

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491104-1

Page 1 of 2

Sample Number	265681-1
Sampled Date	Feb 06, 2026 10:46 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.3	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	7	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	7	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	664	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	19	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Changchon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 265681

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491104-1

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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 265681

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491104-2

Page 1 of 1

Sample Number	265681-1
Sampled Date	Feb 06, 2026 10:46 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	204	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	5.73	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Wasan Kinunti

Remark :

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

Approved by

Nanthawadee Somboon
Specialist 2

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2610286

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499634-1

Page 1 of 2

Sample Number	2610286-1
Sampled Date	Mar 06, 2026 11:02 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	7	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	6	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.8	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	552	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2610286

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499634-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

Remark :

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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

PhotchanaS

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2610286

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499634-2

Page 1 of 1

Sample Number	2610286-1
Sampled Date	Mar 06, 2026 11:02 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	124	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	6.35	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2623267

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528333-1

Page 1 of 2

Sample Number	2623267-1
Sampled Date	Apr 03, 2026 10:25 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Apr 03, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	300	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2623267

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528333-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2623267

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528333-2

Page 1 of 1

Sample Number	2623267-1						
Sampled Date	Apr 03, 2026 10:25 AM						
Sample Description	Wastewater						
Location	Final Check Pond ของโรงงาน LDPE						
Date Analysis Commenced	Apr 03, 2026						
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	93	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	7.85	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui , Pattarapol Sawangjaitam

Remark :

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

Approved by

Nanthawadee Somboon
Specialist 2

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630061

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545581-1

Page 1 of 2

Sample Number	2630061-1
Sampled Date	May 08, 2026 10:51 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.7	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	36.0	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	644	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2630061

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545581-1

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 : Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2630061

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545581-2

Page 1 of 1

Sample Number	2630061-1
Sampled Date	May 08, 2026 10:51 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in two glass vials, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	155	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	10.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Phongthep Sitthiloh

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2643181

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3573930-1

Page 1 of 2

Sample Number 2643181-1
Sampled Date Jun 05, 2026 11:15 AM
Sample Description Wastewater
Location Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced Jun 05, 2026
Condition of Sample Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	7	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	6	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	37.6	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	384	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	12	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2643181

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3573930-1

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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Johnson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2643181

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3573930-2

Page 1 of 1

Sample Number	2643181-1
Sampled Date	Jun 05, 2026 11:15 AM
Sample Description	Wastewater
Location	Final Check Pond ของโรงงาน LDPE
Date Analysis Commenced	Jun 05, 2026
Condition of Sample	Contained in one amber glass bottle, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	108	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Total Organic Carbon	mg/L	0.01	0.1	7.89	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui , Akkarin Budsaktee

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

TESTING

No.0042

Lot ID: 262282

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485202-1

Page 1 of 2

Sample Number	262282-1
Sampled Date	Jan 09, 2026 11:05 AM
Sample Description	Wastewater
Location	รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Jan 09, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	8.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	31	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	9	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	27.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 262282

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485202-1

Page 2 of 2

Sample Number	262282-1						
Sampled Date	Jan 09, 2026 11:05 AM						
Sample Description	Wastewater						
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1						
Date Analysis Commenced	Jan 09, 2026						
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	496	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.6	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	11	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019 , Kardbundit Kitisupavanit ทะเบียนเลขที่ ว-204-จ-0001

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O :

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 262282

Date Received : Jan 09, 2026

Date Reported : Jan 17, 2026

Report Number : 3485202-2

Page 1 of 1

Sample Number	262282-1
Sampled Date	Jan 09, 2026 11:05 AM
Sample Description	Wastewater
Location	รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Jan 09, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	117	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	9.31	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Wasan Kinunti , Kardbundit Kitisupavanit

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265666

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491090-1

Page 1 of 2

Sample Number 265666-1
Sampled Date Feb 06, 2026 11:03 AM
Sample Description Wastewater
Location รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced Feb 06, 2026
Condition of Sample Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	32	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	9	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	7	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	33.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Chumson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 265666

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491090-1

Page 2 of 2

Sample Number	265666-1
Sampled Date	Feb 06, 2026 11:03 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	876	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.6	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019 , Kardbundit Kitisupavanit ทะเบียนเลขที่ ว-204-จ-0001

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Jitsupa P.

Jitsupa Pratuangsuk
Scientist (2)

ทะเบียนเลขที่ ว-323-จ-0004

Approved by

D. Changchon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 265666

Date Received : Feb 06, 2026

Date Reported : Feb 14, 2026

Report Number : 3491090-2

Page 1 of 1

Sample Number	265666-1
Sampled Date	Feb 06, 2026 11:03 AM
Sample Description	Wastewater
Location	รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Feb 06, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	198	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	7.40	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Wasan Kinunti , Kardbundit Kitisupavanit

Remark :

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

Approved by

Nanthawadee Sombon
Specialist 2

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2610283

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499631-1

Page 1 of 2

Sample Number	2610283-1
Sampled Date	Mar 06, 2026 11:20 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, 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, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	18	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	15	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	34.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2610283

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499631-1

Page 2 of 2

Sample Number	2610283-1
Sampled Date	Mar 06, 2026 11:20 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	564	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	11	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2610283

Date Received : Mar 06, 2026

Date Reported : Mar 14, 2026

Report Number : 3499631-2

Page 1 of 1

Sample Number	2610283-1
Sampled Date	Mar 06, 2026 11:20 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Mar 06, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	113	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	12.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623262

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528329-1

Page 1 of 2

Sample Number 2623262-1
Sampled Date Apr 03, 2026 10:30 AM
Sample Description Wastewater
Location รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced Apr 03, 2026
Condition of Sample Contained in one amber glass bottle, four glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.8	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	40	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	15	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	15	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	33.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2623262

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528329-1

Page 2 of 2

Sample Number	2623262-1
Sampled Date	Apr 03, 2026 10:30 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Apr 03, 2026
Condition of Sample	Contained in one amber glass bottle, four glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	588	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.9	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ว-204-จ-0002

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623262

Date Received : Apr 03, 2026

Date Reported : Apr 11, 2026

Report Number : 3528329-2

Page 1 of 1

Sample Number : 2623262-1
Sampled Date : Apr 03, 2026 10:30 AM
Sample Description : Wastewater
Location : โรงระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced : Apr 03, 2026
Condition of Sample : Contained in one amber glass bottle, four glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	177	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	14.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui , Pattarapol Sawangjaitam

Remark :

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

Approved by

Nanthawadee Sombon
Specialist 2

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630056

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545575-1

Page 1 of 2

Sample Number	2630056-1
Sampled Date	May 08, 2026 11:01 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	5.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	43	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	13	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	10	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	34.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

TESTING

No.0042

Lot ID: 2630056

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545575-1

Page 2 of 2

Sample Number	2630056-1
Sampled Date	May 08, 2026 11:01 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	752	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023 , Kardbundit Kitisupavanit ทะเบียนเลขที่ ว-204-จ-0001

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630056

Date Received : May 08, 2026

Date Reported : May 16, 2026

Report Number : 3545575-2

Page 1 of 1

Sample Number	2630056-1
Sampled Date	May 08, 2026 11:01 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	May 08, 2026
Condition of Sample	Contained in four glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	163	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	13.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Phongthep Sitthiloh , Kardbundit Kitisupavanit

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: TPE Site 1

Lot ID: 2630059

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3545579-1

Page 1 of 2

Sample Number	2630059-1
Sampled Date	Jun 05, 2026 11:20 AM
Sample Description	Wastewater
Location	วางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Jun 05, 2026
Condition of Sample	Contained in one amber glass bottle, four glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	27	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	11	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	11	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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, 24th ed., 2023, part 4500 - H (B)	Rayong
Sulfide *	mg/L	-	0.5	0.6	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	35.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630059
Date Received : Jun 05, 2026
Date Reported : Jun 13, 2026
Report Number : 3545579-1

Page 2 of 2

Sample Number 2630059-1
Sampled Date Jun 05, 2026 11:20 AM
Sample Description Wastewater
Location รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced Jun 05, 2026
Condition of Sample Contained in one amber glass bottle, four glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	444	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried from 103-105 degree C	mg/L	-	5	9	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, 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 : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

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.
- Sampling is not included in scope of accreditation ISO/IEC 17025

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2630059

Date Received : Jun 05, 2026

Date Reported : Jun 13, 2026

Report Number : 3545579-2

Page 1 of 1

Sample Number	2630059-1
Sampled Date	Jun 05, 2026 11:20 AM
Sample Description	Wastewater
Location	รางระบายน้ำรวมพื้นที่ TPE Site#1
Date Analysis Commenced	Jun 05, 2026
Condition of Sample	Contained in one amber glass bottle, four glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl	mg/L	0.5	1	108	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Settleable Solid	mL/L/hr	-	0.1	<0.1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F	Rayong
Total Organic Carbon	mg/L	0.01	0.1	9.88	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5310 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 : Sansoen Khuiyoksui , Akkarin Budsaktee

Remark :

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

Approved by

Photchana S

Photchana Seeda
Scientist (4)

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คุณภาพน้ำใต้ดิน



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : PP1

Lot ID: 2623554

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3529185-1

Page 1 of 1

Sample Number	2623554-1
Sampled Date	Apr 21, 2026 11:35 AM
Sample Description	Groundwater
Location	บ่อเหนือ
Date Analysis Commenced	Apr 21, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	6.5	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ไซบริกคือ 6.5-9.2

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

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Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location: PP1

Lot ID: 2623554

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3529185-2

Page 1 of 1

Sample Number	2623554-1
Sampled Date	Apr 21, 2026 11:35 AM
Sample Description	Groundwater
Location	บ่อเหนือ
Date Analysis Commenced	Apr 22, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
n-Hexane	mg/L	-	0.001	<0.001	11	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 B	Bangkok
Petroleum Hydrocarbons							
TPH C>16-C35	mg/L	-	0.05	<0.05	0.1	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C>8-C16	mg/L	-	0.05	<0.05	1.7	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C5-C8	mg/L	-	0.01	<0.01	1.4	United States Environmental Protection Agency, EPA Method 5030 B and 8260 D	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Note : TPH C5-C8 : Sum of n-Pentane, n-Hexane, n-Heptane and n-Octane
TPH C>8-C16 : Sum of n-Nonane, n-Decane, n-Undecane, n-Dodecane, n-Tridecane, n-Tetradecane, n-Pentadecane and n-Hexadecane
TPH C>16-C35 : Sum of n-Heptadecane, Pristane, n-Octadecane, Phytane, n-Nonadecane, n-Eicosane, n-Heneicosane, n-Docosane, n-Tricosane, n-Tetracosane, n-Pentacosane, n-Hexacosane, n-Heptacosane, n-Octacosane, n-Nonacosane, n-Triacontane, n-Hentriacontane, n-Dotriacontane, n-Tritriacontane, n-Tetratriacontane and n-Pentatriacontane
Integration mode: Peak to Peak.

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Narin Saiseng
Supervisor

ทะเบียนเลขที่ ว-204-จ-0009

Approved by

Kanokkorn Anek
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0004

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : LDPE

Lot ID: 2623561

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3529192-1

Page 1 of 1

Sample Number	2623561-1
Sampled Date	Apr 21, 2026 10:30 AM
Sample Description	Groundwater
Location	บ่อห้วยน้ำ
Date Analysis Commenced	Apr 21, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	6.5	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อห้วยน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อเหนือน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ไขว้โรคคือ 6.5-9.2

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: LDPE

Lot ID: 2623561

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3529192-2

Page 1 of 1

Sample Number	2623561-1
Sampled Date	Apr 21, 2026 10:30 AM
Sample Description	Groundwater
Location	บ่อกู้ยน้ำ
Date Analysis Commenced	Apr 22, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
n-Hexane	mg/L	-	0.001	<0.001	11	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 B	Bangkok
Petroleum Hydrocarbons							
TPH C>16-C35	mg/L	-	0.05	<0.05	0.1	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C>8-C16	mg/L	-	0.05	<0.05	1.7	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C5-C8	mg/L	-	0.01	<0.01	1.4	United States Environmental Protection Agency, EPA Method 5030 B and 8260 D	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Note : TPH C5-C8 : Sum of n-Pentane, n-Hexane, n-Heptane and n-Octane
TPH C>8-C16 : Sum of n-Nonane, n-Decane, n-Undecane, n-Dodecane, n-Tridecane, n-Tetradecane, n-Pentadecane and n-Hexadecane
TPH C>16-C35 : Sum of n-Heptadecane, Pristane, n-Octadecane, Phytane, n-Nonadecane, n-Eicosane, n-Heneicosane, n-Docosane, n-Tricosane, n-Tetracosane, n-Pentacosane, n-Hexacosane, n-Heptacosane, n-Octacosane, n-Nonacosane, n-Triacontane, n-Hentriacontane, n-Dotriacontane, n-Tritriacontane, n-Tetratriacontane and n-Pentatriacontane
Integration mode: Peak to Peak

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Nant Somb

Nanthawadee Somboon
Specialist 2
ทะเบียนเลขที่ ว-204-จ-0010

Approved by

Kanok Korn Anek

Kanokkorn Anek
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0004

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : TPE Site 1

Lot ID: 2623257

Date Received : Apr 21, 2026
Date Reported : Apr 29, 2026
Report Number : 3559346-1

Page 1 of 1

Sample Number 2623257-1
Sampled Date Apr 21, 2026 12:20 PM
Sample Description Groundwater
Location บ่ออ่างอิง 1
Date Analysis Commenced Apr 21, 2026
Condition of Sample Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	6.1	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อเหนือน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ไขว้โรคคือ 6.5-9.2

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Photchana S

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2623257

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3559346-2

Page 1 of 1

Sample Number	2623257-1
Sampled Date	Apr 21, 2026 12:20 PM
Sample Description	Groundwater
Location	บ่อล้างลิ้ง 1
Date Analysis Commenced	Apr 22, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
n-Hexane	mg/L	-	0.001	<0.001	11	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 B	Bangkok
Petroleum Hydrocarbons							
TPH C>16-C35	mg/L	-	0.05	<0.05	0.1	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C>8-C16	mg/L	-	0.05	<0.05	1.7	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C5-C8	mg/L	-	0.01	<0.01	1.4	United States Environmental Protection Agency, EPA Method 5030 B and 8260 D	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Note : TPH C5-C8 : Sum of n-Pentane, n-Hexane, n-Heptane and n-Octane
TPH C>8-C16 : Sum of n-Nonane, n-Decane, n-Undecane, n-Dodecane, n-Tridecane, n-Tetradecane, n-Pentadecane and n-Hexadecane
TPH C>16-C35 : Sum of n-Heptadecane, Pristane, n-Octadecane, Phytane, n-Nonadecane, n-Eicosane, n-Heneicosane, n-Docosane, n-Tricosane, n-Tetracosane, n-Pentacosane, n-Hexacosane, n-Heptacosane, n-Octacosane, n-Nonacosane, n-Triacontane, n-Hentriacontane, n-Dotriacontane, n-Tritriacontane, n-Tetratriacontane and n-Pentatriacontane
Integration mode: Peak to Peak.

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Narin Saiseng
Supervisor

ทะเบียนเลขที่ ว-204-จ-0009

Approved by

Kanokkorn Anek
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0004

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2623257

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3559347-1

Page 1 of 1

Sample Number	2623257-2
Sampled Date	Apr 21, 2026 11:00 AM
Sample Description	Groundwater
Location	บ่ออ้างอิง 2
Date Analysis Commenced	Apr 21, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	6.5	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างให้เปรียบเทียบผลวิเคราะห์ค่าพีเอชจากจุดเก็บตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อเหนือน้ำที่ใช้เป็นบ่ออ้างอิงบนทิศทางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ไขว้โรคคือ 6.5-9.2

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Photchana S

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location: TPE Site 1

Lot ID: 2623257

Date Received : Apr 21, 2026

Date Reported : Apr 29, 2026

Report Number : 3559347-2

Page 1 of 1

Sample Number	2623257-2
Sampled Date	Apr 21, 2026 11:00 AM
Sample Description	Groundwater
Location	บ่อล้างล้าง 2
Date Analysis Commenced	Apr 22, 2026
Condition of Sample	Contained in two glass vials, two amber glass bottles and one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
n-Hexane	mg/L	-	0.001	<0.001	11	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 6200 B	Bangkok
Petroleum Hydrocarbons							
TPH C>16-C35	mg/L	-	0.05	<0.05	0.1	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C>8-C16	mg/L	-	0.05	<0.05	1.7	United States Environmental Protection Agency, EPA Method 3510 C and 8015 C	Bangkok
TPH C5-C8	mg/L	-	0.01	<0.01	1.4	United States Environmental Protection Agency, EPA Method 5030 B and 8260 D	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Note : TPH C5-C8 : Sum of n-Pentane, n-Hexane, n-Heptane and n-Octane
TPH C>8-C16 : Sum of n-Nonane, n-Decane, n-Undecane, n-Dodecane, n-Tridecane, n-Tetradecane, n-Pentadecane and n-Hexadecane
TPH C>16-C35 : Sum of n-Heptadecane, Pristane, n-Octadecane, Phytane, n-Nonadecane, n-Eicosane, n-Heneicosane, n-Docosane, n-Tricosane, n-Tetracosane, n-Pentacosane, n-Hexacosane, n-Heptacosane, n-Octacosane, n-Nonacosane, n-Triacontane, n-Hentriacontane, n-Dotriacontane, n-Tritriacontane, n-Tetratriacontane and n-Pentatriacontane
Integration mode: Peak to Peak.

Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005 , Akkarin Budsaktee ทะเบียนเลขที่ ว-204-จ-0196

Remark :

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

Technical Management

Narin Saiseng
Supervisor

ทะเบียนเลขที่ ว-204-จ-0009

Approved by

Kanokkorn Anek
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0004

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

ระดับเสียงโดยทั่วไป



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577564-1

Page 1 of 1

Sample Number 2630013-1
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 07 - May 08, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	60.4	82.1	59.1
11:00 AM - 12:00 PM	61.5	75.3	59.7
12:00 PM - 01:00 PM	61.3	78.4	59.1
01:00 PM - 02:00 PM	60.2	78.3	58.6
02:00 PM - 03:00 PM	60.1	76.6	58.6
03:00 PM - 04:00 PM	59.6	79.1	57.0
04:00 PM - 05:00 PM	59.9	78.6	58.0
05:00 PM - 06:00 PM	60.1	76.4	58.3
06:00 PM - 07:00 PM	61.3	79.0	59.3
07:00 PM - 08:00 PM	59.9	77.2	57.8
08:00 PM - 09:00 PM	60.0	77.6	58.6
09:00 PM - 10:00 PM	59.7	78.1	57.9
10:00 PM - 11:00 PM	59.9	80.5	58.5
11:00 PM - 12:00 AM	60.0	78.6	58.9
12:00 AM - 01:00 AM	60.9	80.0	59.8
01:00 AM - 02:00 AM	60.3	79.3	59.0
02:00 AM - 03:00 AM	60.5	79.9	59.2
03:00 AM - 04:00 AM	59.8	76.0	58.4
04:00 AM - 05:00 AM	60.3	76.4	59.5
05:00 AM - 06:00 AM	58.7	76.6	56.8
06:00 AM - 07:00 AM	60.0	76.7	59.0
07:00 AM - 08:00 AM	60.6	77.8	59.1
08:00 AM - 09:00 AM	60.1	80.0	57.8
09:00 AM - 10:00 AM	60.1	78.1	58.8

Leq Average 24 hrs. (dB(A)) 60.3
Lmax (dB(A)) 82.1
L90 (dB(A)) 58.6
Ldn (dB(A)) 66.5

Standard (dB(A)) 70 115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577565-1

Page 1 of 1

Sample Number 2630013-2
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 08 - May 09, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	59.9	79.1	58.5
11:00 AM - 12:00 PM	60.5	73.3	58.7
12:00 PM - 01:00 PM	60.3	89.9	57.9
01:00 PM - 02:00 PM	59.9	78.6	57.7
02:00 PM - 03:00 PM	60.1	85.4	57.7
03:00 PM - 04:00 PM	60.0	83.2	57.6
04:00 PM - 05:00 PM	59.3	71.5	58.5
05:00 PM - 06:00 PM	59.2	64.3	58.2
06:00 PM - 07:00 PM	59.6	64.2	57.9
07:00 PM - 08:00 PM	58.7	66.6	57.0
08:00 PM - 09:00 PM	59.5	71.2	57.8
09:00 PM - 10:00 PM	60.6	70.5	58.5
10:00 PM - 11:00 PM	59.4	72.5	58.3
11:00 PM - 12:00 AM	59.9	71.2	59.1
12:00 AM - 01:00 AM	59.9	75.7	58.7
01:00 AM - 02:00 AM	59.8	64.1	59.0
02:00 AM - 03:00 AM	59.6	70.9	58.8
03:00 AM - 04:00 AM	59.6	75.4	58.4
04:00 AM - 05:00 AM	59.5	63.8	58.7
05:00 AM - 06:00 AM	58.4	76.3	56.5
06:00 AM - 07:00 AM	59.7	76.4	58.7
07:00 AM - 08:00 AM	60.3	77.5	58.8
08:00 AM - 09:00 AM	59.2	72.3	58.1
09:00 AM - 10:00 AM	59.5	69.8	58.4

Leq Average 24 hrs. (dB(A))

59.7

Lmax (dB(A))

89.9

L90 (dB(A))

58.4

Ldn (dB(A))

66.0

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป

2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head



Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577566-1

Page 1 of 1

Sample Number 2630013-3
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 09 - May 10, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	59.4	69.9	57.8
11:00 AM - 12:00 PM	59.2	71.9	57.7
12:00 PM - 01:00 PM	59.9	79.8	57.6
01:00 PM - 02:00 PM	59.9	77.9	58.6
02:00 PM - 03:00 PM	59.7	78.9	58.3
03:00 PM - 04:00 PM	59.3	69.6	58.2
04:00 PM - 05:00 PM	59.2	69.7	57.6
05:00 PM - 06:00 PM	59.0	71.7	57.5
06:00 PM - 07:00 PM	59.3	71.0	57.6
07:00 PM - 08:00 PM	60.4	70.3	58.3
08:00 PM - 09:00 PM	59.2	72.3	58.1
09:00 PM - 10:00 PM	59.7	71.0	58.9
10:00 PM - 11:00 PM	59.7	75.5	58.5
11:00 PM - 12:00 AM	59.6	63.9	58.8
12:00 AM - 01:00 AM	59.1	71.3	58.3
01:00 AM - 02:00 AM	59.0	64.1	58.0
02:00 AM - 03:00 AM	59.4	64.0	57.7
03:00 AM - 04:00 AM	58.5	66.4	56.8
04:00 AM - 05:00 AM	58.5	76.4	56.6
05:00 AM - 06:00 AM	59.8	76.5	58.8
06:00 AM - 07:00 AM	60.4	77.6	58.9
07:00 AM - 08:00 AM	60.3	73.1	58.5
08:00 AM - 09:00 AM	60.1	89.7	57.7
09:00 AM - 10:00 AM	59.7	78.4	57.5

Leq Average 24 hrs. (dB(A)) 59.5
Lmax (dB(A)) 89.7
L90 (dB(A)) 58.0
Ldn (dB(A)) 65.8

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577567-1

Page 1 of 1

Sample Number 2630013-4
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 10 - May 11, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	59.9	85.2	57.5
11:00 AM - 12:00 PM	59.8	83.0	57.4
12:00 PM - 01:00 PM	58.4	72.8	56.3
01:00 PM - 02:00 PM	58.3	76.7	56.6
02:00 PM - 03:00 PM	58.2	76.1	56.4
03:00 PM - 04:00 PM	58.4	75.4	56.2
04:00 PM - 05:00 PM	59.3	85.9	55.7
05:00 PM - 06:00 PM	59.8	78.1	57.7
06:00 PM - 07:00 PM	61.0	79.6	59.2
07:00 PM - 08:00 PM	60.6	79.3	57.7
08:00 PM - 09:00 PM	58.6	70.9	57.1
09:00 PM - 10:00 PM	59.4	83.1	57.8
10:00 PM - 11:00 PM	59.2	71.1	57.9
11:00 PM - 12:00 AM	57.8	78.0	56.0
12:00 AM - 01:00 AM	58.3	76.5	56.8
01:00 AM - 02:00 AM	58.7	69.8	57.7
02:00 AM - 03:00 AM	59.1	72.4	57.2
03:00 AM - 04:00 AM	61.5	82.8	59.2
04:00 AM - 05:00 AM	62.4	85.7	59.1
05:00 AM - 06:00 AM	66.5	86.7	58.3
06:00 AM - 07:00 AM	59.9	77.5	58.5
07:00 AM - 08:00 AM	59.6	79.9	57.8
08:00 AM - 09:00 AM	60.0	82.1	58.5
09:00 AM - 10:00 AM	58.4	74.4	56.9

Leq Average 24 hrs. (dB(A))

60.2

Lmax (dB(A))

86.7

L90 (dB(A))

57.5

Ldn (dB(A))

67.5

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป

2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head

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Life Sciences

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577568-1

Page 1 of 1

Sample Number 2630013-5
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 11 - May 12, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	59.7	72.1	57.4
11:00 AM - 12:00 PM	60.6	80.1	59.2
12:00 PM - 01:00 PM	60.0	79.0	58.4
01:00 PM - 02:00 PM	59.5	78.0	58.1
02:00 PM - 03:00 PM	60.1	78.0	58.7
03:00 PM - 04:00 PM	59.3	75.6	57.9
04:00 PM - 05:00 PM	58.9	74.4	56.8
05:00 PM - 06:00 PM	59.0	81.6	57.4
06:00 PM - 07:00 PM	60.1	80.7	57.9
07:00 PM - 08:00 PM	60.5	72.6	58.0
08:00 PM - 09:00 PM	58.8	78.2	57.2
09:00 PM - 10:00 PM	59.3	73.9	58.1
10:00 PM - 11:00 PM	58.9	79.7	57.2
11:00 PM - 12:00 AM	59.3	78.0	57.8
12:00 AM - 01:00 AM	59.1	73.6	57.4
01:00 AM - 02:00 AM	59.0	72.9	57.9
02:00 AM - 03:00 AM	59.2	74.7	57.8
03:00 AM - 04:00 AM	59.8	79.9	58.5
04:00 AM - 05:00 AM	59.7	80.4	58.2
05:00 AM - 06:00 AM	59.4	72.3	58.2
06:00 AM - 07:00 AM	59.9	73.8	58.6
07:00 AM - 08:00 AM	59.6	74.4	57.9
08:00 AM - 09:00 AM	59.2	73.9	57.7
09:00 AM - 10:00 AM	59.2	78.4	57.5

Leq Average 24 hrs. (dB(A)) 59.5
Lmax (dB(A)) 81.6
L90 (dB(A)) 57.9
Ldn (dB(A)) 65.8

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577569-1

Page 1 of 1

Sample Number 2630013-6
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 12 - May 13, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	61.8	77.3	60.3
11:00 AM - 12:00 PM	62.4	78.3	60.2
12:00 PM - 01:00 PM	58.6	74.6	57.1
01:00 PM - 02:00 PM	59.9	72.3	57.6
02:00 PM - 03:00 PM	60.8	80.3	59.4
03:00 PM - 04:00 PM	60.4	76.8	58.9
04:00 PM - 05:00 PM	59.8	70.1	58.4
05:00 PM - 06:00 PM	60.8	79.1	59.5
06:00 PM - 07:00 PM	61.6	74.0	60.2
07:00 PM - 08:00 PM	62.4	82.8	60.0
08:00 PM - 09:00 PM	60.1	77.7	58.4
09:00 PM - 10:00 PM	59.4	74.9	58.0
10:00 PM - 11:00 PM	60.0	80.1	58.7
11:00 PM - 12:00 AM	59.9	80.6	58.4
12:00 AM - 01:00 AM	59.6	72.5	58.4
01:00 AM - 02:00 AM	59.6	83.3	58.0
02:00 AM - 03:00 AM	59.4	71.3	58.1
03:00 AM - 04:00 AM	58.0	78.2	56.2
04:00 AM - 05:00 AM	58.5	76.7	57.0
05:00 AM - 06:00 AM	58.8	73.0	57.1
06:00 AM - 07:00 AM	60.7	77.2	58.7
07:00 AM - 08:00 AM	62.0	77.5	60.5
08:00 AM - 09:00 AM	62.6	78.5	60.4
09:00 AM - 10:00 AM	60.8	78.3	59.3

Leq Average 24 hrs. (dB(A)) 60.5
Lmax (dB(A)) 83.3
L90 (dB(A)) 58.4
Ldn (dB(A)) 66.1

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : TPE Site 1

Lot ID: 2630013

Date Received : May 18, 2026

Date Reported : May 22, 2026

Report Number: 3577570-1

Page 1 of 1

Sample Number 2630013-7
Parameter Noise (Leq 24 hrs.)
Location อาคารสำนักงานของกลุ่มโรงงาน TPE Site#1 (GPS 47P 0731744, 1404884)
Measurement Date May 13 - May 14, 2026
Measurement by Sawai Tonpho
Sound Level meter Serial No. 1122607

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	61.2	85.5	59.6
11:00 AM - 12:00 PM	60.3	77.6	59.0
12:00 PM - 01:00 PM	66.7	86.9	58.5
01:00 PM - 02:00 PM	60.1	77.7	58.7
02:00 PM - 03:00 PM	59.8	80.1	58.0
03:00 PM - 04:00 PM	60.2	82.3	58.7
04:00 PM - 05:00 PM	60.5	81.2	59.1
05:00 PM - 06:00 PM	60.6	76.4	59.4
06:00 PM - 07:00 PM	61.6	92.6	59.6
07:00 PM - 08:00 PM	62.0	78.2	60.3
08:00 PM - 09:00 PM	60.4	73.5	58.7
09:00 PM - 10:00 PM	60.1	74.0	58.8
10:00 PM - 11:00 PM	59.8	74.6	58.1
11:00 PM - 12:00 AM	59.4	74.1	57.9
12:00 AM - 01:00 AM	59.4	78.6	57.7
01:00 AM - 02:00 AM	58.9	70.0	57.9
02:00 AM - 03:00 AM	59.3	72.6	57.4
03:00 AM - 04:00 AM	61.7	83.0	59.4
04:00 AM - 05:00 AM	62.6	85.9	59.3
05:00 AM - 06:00 AM	58.9	73.6	57.5
06:00 AM - 07:00 AM	59.2	71.6	58.0
07:00 AM - 08:00 AM	60.2	76.5	58.5
08:00 AM - 09:00 AM	59.7	73.3	57.9
09:00 AM - 10:00 AM	58.5	74.2	56.9

Leq Average 24 hrs. (dB(A))

60.9

Lmax (dB(A))

92.6

L90 (dB(A))

58.5

Ldn (dB(A))

66.7

Standard (dB(A))

70

115

Reference Method : ISO 1996-1 : 2016

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป

2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

Approved by

Supot S

Supot Salamteh
Section Head

คุณภาพอากาศภายในสถานประกอบการ



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 265663

Date Received : Feb 13, 2026
Date Reported : Feb 20, 2026
Report Number : 3491080-1

Page 1 of 3

Sample Number 265663-1
Sampled Date Feb 13, 2026
Sample Description Air Quality
Location หน่วยผลิต C201 โรงงาน HDPE1
Date Analysis Commenced Feb 16, 2026
Condition of Sample Drawn into one 10-L air sampling bag
Barometric Pressure 758 mmHg
Atmospheric Temperature 30.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene	09:30 AM - 11:30 AM	ppm	-	1.0	<1.0	200	Based on ASTM, D 2712-18	ACGIH	Bangkok

Guideline :

ACGIH : The American Conference of Governmental Industrial Hygiene, The 6th edition of the Documentation of the Threshold Limit Values and Biological Exposure Indices (2025).

Sampled By : Nantawat Sarin

Remark :

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

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 265663

Date Received : Feb 13, 2026
Date Reported : Feb 20, 2026
Report Number : 3491080-1

Page 2 of 3

Sample Number : 265663-2
Sampled Date : Feb 13, 2026
Sample Description : Air Quality
Location : หน่วยผลิต C201 โรงงาน HDPE1
Date Analysis Commenced : Feb 16, 2026
Condition of Sample : Drawn into one sorbent tube, refrigerated
Barometric Pressure : 758 mmHg
Atmospheric Temperature : 30.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
n-Hexane	09:30 AM - 11:30 AM	ppm	-	0.03	0.10	500	NIOSH (2003), 1500	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Nantawat Sarin

Remark :

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

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 265663

Date Received : Feb 13, 2026
Date Reported : Feb 20, 2026
Report Number : 3491080-1

Page 3 of 3

Sample Number 265663-3
Sampled Date Feb 13, 2026
Sample Description Air Quality
Location หน่วยเตรียม Catalyst D110 โรงงาน HDPE1
Date Analysis Commenced Feb 16, 2026
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 758 mmHg
Atmospheric Temperature 28.3 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
n-Hexane	09:30 AM - 11:30 AM	ppm	-	0.03	0.25	500	NIOSH (2003), 1500	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Nantawat Sarin

Remark :

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

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.

10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150

P/O : PMM-2025-336

Project Name : Environmental Monitoring

Project Location : HDPE#1

Lot ID: 2630015

Date Received : May 11, 2026

Date Reported : May 22, 2026

Report Number : 3545545-1

Page 1 of 3

Sample Number 2630015-1
Sampled Date May 11, 2026
Sample Description Air Quality
Location หน่วยผลิต C201 โรงงาน HDPE1
Date Analysis Commenced May 12, 2026
Condition of Sample Drawn into one 10-L air sampling bag
Barometric Pressure 757 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Ethylene	08:30 AM - 10:30 AM	ppm	-	1.0	<1.0	200	Based on ASTM, D 2712-23	ACGIH	Bangkok

Guideline :

ACGIH : The American Conference of Governmental Industrial Hygiene, The 6th edition of the Documentation of the Threshold Limit Values and Biological Exposure Indices (2025).

Sampled By : Amnat Wongsakhen

Remark :

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

Approved by

Tanyatorn Mongkonjirawut
Supervisor

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 2630015

Date Received : May 11, 2026
Date Reported : May 22, 2026
Report Number : 3545545-1

Page 2 of 3

Sample Number 2630015-2
Sampled Date May 11, 2026
Sample Description Air Quality
Location หน่วยผลิต C201 โรงงาน HDPE1
Date Analysis Commenced May 14, 2026
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 757 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
n-Hexane	08:30 AM - 10:30 AM	ppm	-	0.03	0.22	500	NIOSH (2003), 1500	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Amnat Wongsakhen

Remark :

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

Approved by

Tanyatorn Mongkonjirawut
Supervisor

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 2630015

Date Received : May 11, 2026
Date Reported : May 22, 2026
Report Number : 3545545-1

Page 3 of 3

Sample Number 2630015-3
Sampled Date May 11, 2026
Sample Description Air Quality
Location หน่วยเตรียม Catalyst D110 โรงงาน HDPE1
Date Analysis Commenced May 14, 2026
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 757 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
n-Hexane	08:30 AM - 10:30 AM	ppm	-	0.03	0.15	500	NIOSH (2003), 1500	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Amnat Wongsakhen

Remark :

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

Approved by

Tanyatarn Mongkonjirawut
Supervisor

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

ระดับเสียงภายในสถานประกอบการ



Analysis / Test Report

Client : Thai Polyethylene Co., Ltd.
10, Map Ta Phut Industrial Estate I-1 Road, Map Ta Phut, Muang District, Rayong
Thailand 21150
P/O : PMM-2025-336
Project Name : Environmental Monitoring
Project Location : HDPE#1

Lot ID: 2630017

Date Received : May 11, 2026
Date Reported : May 14, 2026
Report Number : 3545560-1

Page 1 of 1

Sample Number 2630017-1
Sampled Date May 11, 2026
Sample Description Noise Dose
Location พนักงานของ HDPE1
Personal Sampling คุณสุรเชษฐ์ แก้วพิก
Date Analysis Commenced May 14, 2026

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	08:00 AM - 08:00 PM	%	-	1	64.6	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	08:00 AM - 08:00 PM	%	-	1	58.9	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	08:00 AM - 08:00 PM	dB(A)	-	-	81.1	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	08:00 AM - 08:00 PM	dB(A)	-	-	82.7	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Amnat Wongsakhen

Remark :

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

Approved by

Supot Salamteh
Section Head

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. The report shall not be reproduced except in full without the written approval of the laboratory.

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Life Sciences

www.alsglobal.com

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ภาคผนวก ค-2

แผนผังแสดงเส้นเสียง (Noise Contour Map)

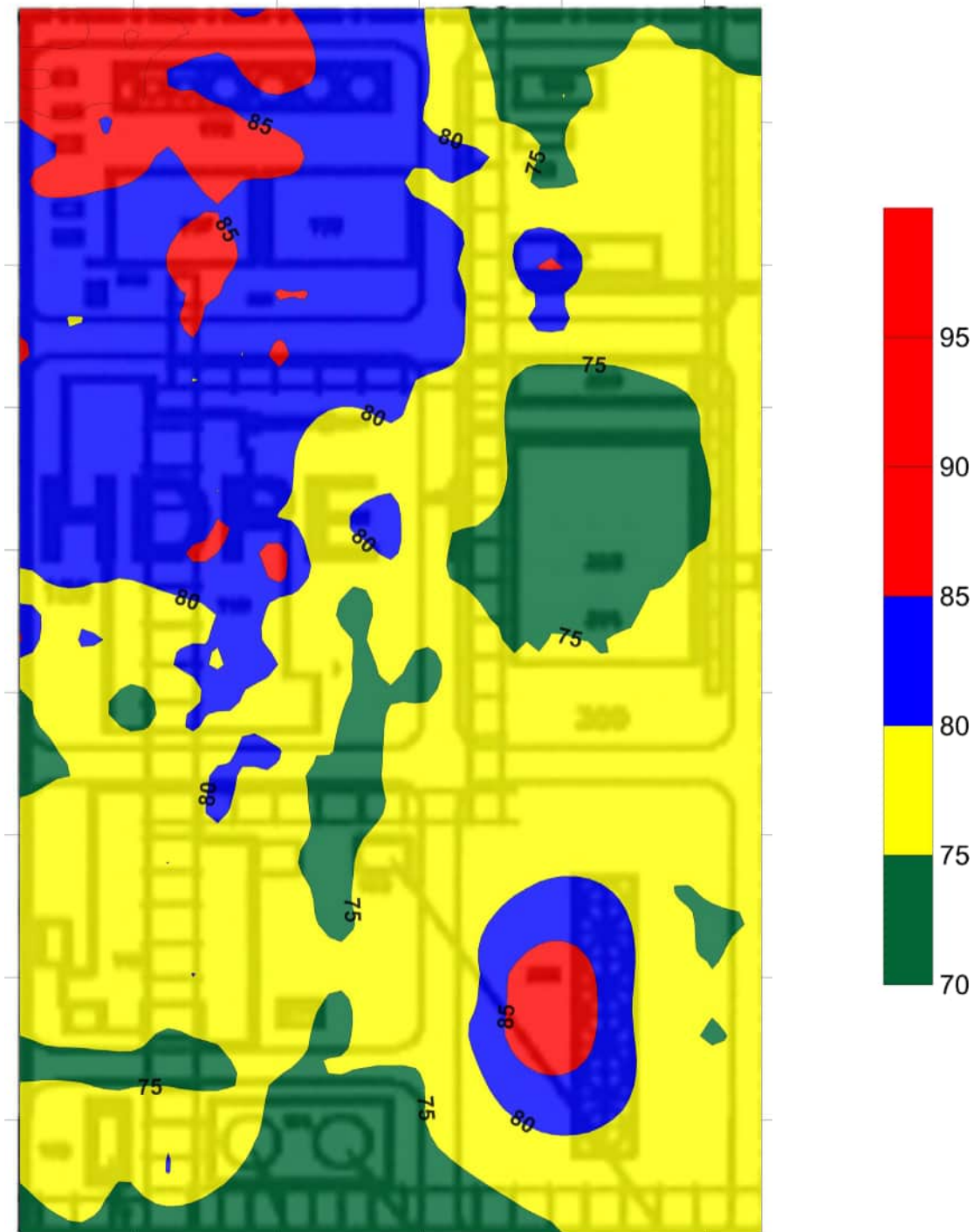


Noise Contour Map

Thai Polyethylene Co., Ltd. (HDPE#1 Plant)

Reference Number : Lot 2630019-1

Measurement Date : May 11, 2026



ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250, Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
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ภาคผนวก ค-3

การสำรวจสภาพเศรษฐกิจ-สังคม

สรุปผลการสำรวจ ความคิดเห็น
สภาพเศรษฐกิจ-สังคมที่มีต่อ

โครงการโรงงานผลิตเม็ดพลาสติกโพลิเอทิลีน ชนิดความหนาแน่นสูง
โรงงานที่ 1 (HDPE1)
ในปี พ.ศ. 2568

โดย บริษัท ซิมริเชอช จำกัด



สารบัญ

	หน้า
1. พื้นที่ตั้งศึกษา	1
2. วิธีการศึกษา	1
3. วิธีการและเครื่องมือที่ใช้	6
4. การสรุปผลการสำรวจและการนำเสนอข้อมูล	6
5. สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มประชาชนตัวแทนครัวเรือน กลุ่มผู้นำชุมชนกลุ่มหน่วยงานราชการท้องถิ่น กลุ่มหน่วยงานในพื้นที่อื่นในหว และ กลุ่มสถานประกอบการใกล้เคียง ในปี พ.ศ. 2568	12
5.1 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มประชาชนตัวแทนครัวเรือน	12
5.1.1 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มประชาชนตัวแทนครัวเรือนในพื้นที่ระยะรัศมี 0 - 3 กิโลเมตร	15
5.1.2 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มประชาชนตัวแทนครัวเรือนในพื้นที่ระยะรัศมี 3 - 5 กิโลเมตร	18
5.2 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มผู้นำชุมชน	21
5.2.1 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มผู้นำชุมชนในพื้นที่ระยะรัศมี 0 - 3 กิโลเมตร	24
5.2.2 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มผู้นำชุมชนในพื้นที่ระยะรัศมี 3 - 5 กิโลเมตร	27
5.3 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มหน่วยงานราชการท้องถิ่น	30
5.4 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มหน่วยงานในพื้นที่อื่นในหว	32
5.4.1 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มหน่วยงานในพื้นที่อื่นในหวในพื้นที่ระยะรัศมี 0 - 3 กิโลเมตร	34
5.4.2 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มหน่วยงานในพื้นที่อื่นในหวในพื้นที่ระยะรัศมี 3 - 5 กิโลเมตร	36
5.5 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มสถานประกอบการใกล้เคียง	38
6. ข้อเสนอแนะและแนวทางการดำเนินงาน	91
เอกสารอ้างอิง	95

สารบัญตาราง

	หน้า
ตารางสรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มเป้าหมาย	
ตารางที่ 1.1 สรุปขนาดกลุ่มตัวอย่าง - กลุ่มประชาชนตัวแทนครัวเรือน และกลุ่มผู้นำชุมชน ปี พ.ศ. 2568	5
ตารางที่ 2.1-2.5 สรุปการเปรียบเทียบผลการสำรวจสภาพเศรษฐกิจและสังคม	40
ตารางที่ 3.1 3.1.4 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของกลุ่มผู้นำชุมชน (กลุ่มประชาชนตัวแทนครัวเรือน และกลุ่มผู้นำชุมชน)	45
ตารางที่ 4.1 - 4.8 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มหน่วยงานราชการท้องถิ่น	64
ตารางที่ 5.1 - 5.7 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มหน่วยงานในพื้นที่อื่นในหว	73
ตารางที่ 6.1 - 6.7 สรุปผลการสำรวจสภาพเศรษฐกิจ สังคม และความคิดเห็นของ กลุ่มสถานประกอบการใกล้เคียง	82

สารบัญรูปภาพ

	หน้า
รูปภาพการดำเนินงานภาคสนาม	91
รูปภาพแผนที่แสดงการนับขนาดตัวอย่างในแต่ละหมู่บ้าน/ชุมชน ของ โครงการโรงงานผลิตเม็ดพลาสติกโพลิเอทิลีน ชนิดความหนาแน่นสูง โรงงานที่ 1 (HDPE1) ปี พ.ศ. 2568	92

ภาคผนวก ง

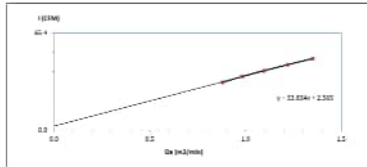
ใบรับรองการสอบเทียบเครื่องมือ



High Volume Air Sampler Calibration Worksheet

Project Site:	The Polytechnic Co., Ltd.	Barometric Pressure (mm Hg):	755.1
Calibration Location:	Samut Prakan (SPP) Airport	Temperature (°C):	28.6
Calibration Date:	14 May 20	High Volume ID:	HYG-P30100
Calibration Unit No.:	C-140520-RYG-P30100	High Volume Model:	TS-50000
Calibrator ID:	HYG-P30100	High Volume A/N:	4307
Calibrator Model:	TS-50286	Calibrator Slope:	0.9219
Calibrator A/N:	1205	Calibrator Intercept:	0.00284

Test No.	Delta H ₂ O (inch)	Q _a (m³/min)	Flow (CFM)	Linear Regression
1	1.4	0.000	32	Slope: 21.0127
2	1.6	0.000	36	Intercept: 1.8860
3	1.7	0.076	40	Correlation Coefficient: 0.9990
4	1.1	0.224	44	
5	0.8	1.091	38	



(Mr. Aisak Tarnon) (Mr. Supat Sarnon) Field Service Section Head

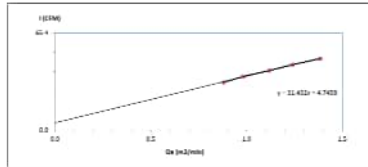
FORM NO. F-04-014 REVISION NO. 0 ISSUE DATE: 26/11/21



High Volume Air Sampler Calibration Worksheet

Project Site:	The Polytechnic Co., Ltd.	Barometric Pressure (mm Hg):	755.1
Calibration Location:	Samut Prakan (SPP) Airport	Temperature (°C):	28.6
Calibration Date:	14 May 20	High Volume ID:	HYG-P30100
Calibration Unit No.:	C-140520-RYG-P30100	High Volume Model:	TS-50000
Calibrator ID:	HYG-P30100	High Volume A/N:	4307
Calibrator Model:	TS-50286	Calibrator Slope:	0.9219
Calibrator A/N:	1205	Calibrator Intercept:	0.00284

Test No.	Delta H ₂ O (inch)	Q _a (m³/min)	Flow (CFM)	Linear Regression
1	1.4	0.000	32	Slope: 21.4123
2	1.6	0.000	36	Intercept: 1.7168
3	1.7	0.117	40	Correlation Coefficient: 0.9992
4	1.2	0.240	44	
5	0.8	1.096	38	



(Mr. Aisak Tarnon) (Mr. Supat Sarnon) Field Service Section Head

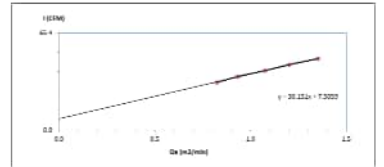
FORM NO. F-04-014 REVISION NO. 0 ISSUE DATE: 26/11/21



High Volume Air Sampler Calibration Worksheet

Project Site:	The Polytechnic Co., Ltd.	Barometric Pressure (mm Hg):	755.7
Calibration Location:	Samut Prakan (SPP) Airport	Temperature (°C):	28.6
Calibration Date:	8 Jun 20	High Volume ID:	HYG-P30100
Calibration Unit No.:	C-080620-RYG-P30100	High Volume Model:	TS-50000
Calibrator ID:	HYG-P30100	High Volume A/N:	5491
Calibrator Model:	TS-50286	Calibrator Slope:	0.9219
Calibrator A/N:	1205	Calibrator Intercept:	0.00284

Test No.	Delta H ₂ O (inch)	Q _a (m³/min)	Flow (CFM)	Linear Regression
1	1.4	0.024	32	Slope: 20.1211
2	1.6	0.001	36	Intercept: 1.8860
3	1.7	0.076	40	Correlation Coefficient: 0.9998
4	1.2	0.202	44	
5	0.8	1.097	38	



(Mr. Aisak Tarnon) (Mr. Supat Sarnon) Field Service Section Head

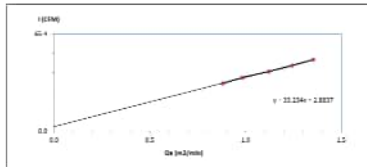
FORM NO. F-04-014 REVISION NO. 0 ISSUE DATE: 26/11/21



High Volume Air Sampler Calibration Worksheet

Project Site:	The Polytechnic Co., Ltd.	Barometric Pressure (mm Hg):	755.1
Calibration Location:	Samut Prakan (SPP) Airport	Temperature (°C):	28.6
Calibration Date:	8 Jun 20	High Volume ID:	HYG-P30100
Calibration Unit No.:	C-080620-RYG-P30100	High Volume Model:	TS-50000
Calibrator ID:	HYG-P30100	High Volume A/N:	5491
Calibrator Model:	TS-50286	Calibrator Slope:	0.9219
Calibrator A/N:	1205	Calibrator Intercept:	0.00284

Test No.	Delta H ₂ O (inch)	Q _a (m³/min)	Flow (CFM)	Linear Regression
1	1.4	0.000	32	Slope: 21.2338
2	1.6	0.000	36	Intercept: 1.8860
3	1.7	0.125	40	Correlation Coefficient: 0.9992
4	1.2	0.240	44	
5	0.8	1.090	38	



(Mr. Aisak Tarnon) (Mr. Supat Sarnon) Field Service Section Head

FORM NO. F-04-014 REVISION NO. 0 ISSUE DATE: 26/11/21

SARTORIUS



Accredited by
NSC-TIS-TIS 17025
Calibration 0426

Calibration certificate

Calibration Certificate No. 25BK10001

Object	Electronic non-automatic weighing instrument	This calibration certificate documents the traceability to national standards.
Manufacturer	Sartorius	Uncertainties of measurements are taken into account when only statements of compliance are made.
Type	LA1305-F	This certificate was prepared by Sartorius Corporation in accordance to the current ISO/IEC 17025:2017 standard and Sartorius Work Instruction (Michael) 001-001.
Serial / QM Ident. no.	25409564 / HYG-LX0001	This certificate valid and apply the equipment only.
Customer	ALS Laboratory Group (Thailand) Co., Ltd. (Rajong Branch)	
Order no.	2230	
Number of pages	4	
Date of calibration	20 Feb 2025	

This calibration certificate may not be reproduced other than in full except with the permission of NSC-TIS-TIS 17025 and the issuing laboratory. Calibration certificates without signature are not valid.

The user is obliged to have the object recalibrated at appropriate intervals.

Date: 02 Mar 2025 Approval of the Calibration Certificate: (Signature) Discrepancy: (Signature)

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykwang
10310 Bangkok

Vertical®
Version 6.5
Page 1/4

Calibration certificate No. 25BK10001
Calibration Certificate

Calibration object

Single range instrument

Model	LA1305-F
Serial Number	25409564
QM Ident. no. / Inventory no.	RYG_EH0001 —
Maximum capacity (Max. load)	150.0000 g
Measured range	150.0000 g
Scale interval	0.0001 g

Place of calibration

Address	According to page 1
Department / Cost center	Laboratory Department / —
Building / Floor	— / 1st Floor
Room	Balance Room
Maximum temperature variation at place of calibration	5 K

Calibration procedure

EURAMET cg 18, V4.0 - Guidelines on the Calibration of Non-Automatic Weighing Instruments

Test equipment

Test equipment type	Test equipment ID	Valid until
Thermometer	MHR-30705 srM011547 Traceable to Si unit through FICSH	21 Aug 2025
Test weight set OIML R111 F2	Certificate No. M73081575_F2 Traceable to Si unit through TCS	29 Aug 2025

Calibration certificate No. 25BK10001
Calibration Certificate

Adjustment Status

The measuring device was internally adjusted before the calibration.

Environmental and measuring conditions

Date of calibration: 20 Feb 2025
Temperature at place of calibration / Temp. diff.: 24.5 °C / 1.0 K
T_{avg} - T_{max}
Measuring conditions: The installation site is suitable. The device was leveled. Balance was
Comments: Humidity 58.0 %RH

Measurement results / Measurement uncertainties

Repeatability	Centricity
Test load (nominal): 10 g / 100 g	Test load (nominal): 50 g
1 10.0000 g 100.0000 g	Center 50.0000 g
2 0.0000 g 100.0000 g	Point up 50.0001 g
3 10.0000 g 100.0000 g	Back up 50.0000 g
4 10.0000 g 100.0000 g	Back right 40.0000 g
5 10.0000 g 100.0000 g	Point right 50.0001 g
6 10.0000 g 100.0000 g	Maximum deviation from correct loading indication
7 10.0000 g 100.0000 g	dL(max) = 0.0001 g
8 10.0000 g 100.0000 g	
9 10.0000 g 100.0000 g	
10 10.0000 g 100.0000 g	
a = 0.00004 g a = 0.00005 g	

Testload	Indication	Error	Expansion factor	Uncertainty	Uncertainty relative
0.0100 g	0.0100 g	0.0000 g	0.00	0.00012 g	1.2 %
0.0500 g	0.0500 g	0.0000 g	7.00	0.00013 g	0.25 %
0.1000 g	0.1000 g	0.0000 g	2.00	0.00013 g	0.13 %
0.5000 g	0.5000 g	0.0000 g	2.00	0.00013 g	0.026 %
1.0000 g	1.0000 g	0.0000 g	7.00	0.00013 g	0.013 %
2.0000 g	2.0000 g	0.0000 g	2.00	0.00013 g	0.006 %
5.0000 g	5.0000 g	0.0000 g	7.00	0.00013 g	0.002 %
10.0000 g	10.0000 g	0.0000 g	7.00	0.00013 g	0.001 %
20.0000 g	20.0000 g	0.0000 g	2.00	0.00014 g	0.0006 %
100.0000 g	100.0000 g	0.0000 g	7.00	0.00021 g	0.00021 %
150.0000 g	150.0000 g	0.0001 g	2.00	0.00028 g	0.00018 %

Minimum error of indication: 0.0001 g
U₉₅ is the number of SDs and not just 1. The uncertainty of measurement (U₉₅) is valid only if error is corrected. You will find reference notes on the certificate of measurement of the calibration certificate. The uncertainty of measurement is determined by the expanded uncertainty of measurement multiplied by the coverage factor, determined in accordance with the European Calibration Certificate (EN ISO 17025). There is a 95 % probability that the value of the calibration will be in the assigned range.

End of calibration certificate

Interpretation of measurement results / Appendix to the calibration certificate

Uncertainty of measurement in use

Device adjusted before measurement: Yes
Temperature deviation considered: 1.5 K (no/CAI active)
Temperature coefficient considered: 1 10 °K
Uncertainty of the weighing result U₉₅(W): U₉₅(W) = 0.00013 g + 2.96 · 10⁻⁶ · R

Reference note: The current uncertainty of measurement is calculated by entering of the reading value into the formula. In relation to this, there is no need for a correction of the reference value. The reported expanded uncertainty of measurement is valid as long as the equipment is used in accordance with the calibration certificate. The value of the calibration certificate is valid only if the equipment is used in accordance with the calibration certificate.

Indication in % of the mass load	Net indication	Uncertainty	Uncertainty relative
1 %	1.0000 g	0.00014 g	0.0001 %
25 %	25.0000 g	0.00028 g	0.0001 %
50 %	50.0000 g	0.00042 g	0.0002 %
75 %	75.0000 g	0.00056 g	0.0002 %
100 %	100.0000 g	0.00070 g	0.0004 %

Graphic realization of the relative uncertainty of measurement / process accuracy



Process accuracy	1.00 %
Safety factor	3
Minimum sample weight	0.0300 g

Displayed example

Process accuracy	1.00 %
Safety factor	3
Minimum sample weight	0.0300 g

SARTORIUS



Accredited by
NSC-TIS-TIS 17025
Calibration 0426

Calibration certificate

Calibration Certificate No. 25BK10001

Object	Electronic non-automatic weighing instrument	This calibration certificate documents the traceability to national standards.
Manufacturer	Sartorius	Uncertainties of measurements are taken into account when only statements of compliance are made.
Type	LA1305-F	This certificate was prepared by Sartorius Corporation in accordance to the current ISO/IEC 17025:2017 standard and Sartorius Work Instruction (Michael) 001-001.
Serial / QM Ident. no.	25409564 / HYG-LX0001	This certificate valid and apply the equipment only.
Customer	ALS Laboratory Group (Thailand) Co., Ltd. (Rajong Branch)	
Order no.	278079	
Number of pages	4	
Date of calibration	03 Feb 2025	

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The user is obliged to have the object recalibrated at appropriate intervals.

Date: 03 Feb 2025 Approval of the Calibration Certificate: (Signature) Discrepancy: (Signature)

Calibration Certificate 25BC0067 Calibration Certificate

Calibration object

Single range instrument

Model LA1305-F

Serial Number 2540864

QM Ident. no. / Inventory no. RYG_E30001 | —

Maximum capacity (Max. load) 150.0000 g

Measured up to 150.0000 g

Scale interval 0.0001 g

Place of calibration

Address According to page 1

Department / Cost center Laboratory Department | —

Building / Floor — | 1st Floor

Room Balance Room

Maximum temperature variation at place of calibration 5 K

Calibration procedure

EURAMET Calibration Guide No. 18, Version 4.0 (1/2015) - Guidelines on the Calibration of Non-Automatic Weighing Instruments

Test equipment

Test equipment type Test equipment ID Valid until

Thermometer Testa 1/4111120143 (Traceable to SI unit through L1/L1/L3 (I)) 18 Nov 2025

Test weight set OIML R111 P2 Certificate No. M05081495_P2 (Traceable to SI unit through TCS) 19 Aug 2027



Certificate of Calibration

Customer: ALB Laboratory Group Thailand Co., Ltd.

Request No.: RYG-2025-1066

Address: 104 Soi Phatthanaburi 40, Phatthanaburi Road, Nong Toeng, Bangkok 10250

Unit Under Calibration Details

Measurement Item: Air Flow Meter

Manufacturer: Mosa Lab

Model: 204-F100

Serial Number: 131114

Location of Calibration: LAB 4 AIR VELOCITY METER

Calibration Environment and Details

Temperature: 23.1 °C ± 0.2 °C

Humidity: 53.740% ± 0.140%

Barometric Pressure: 1013.42 hPa ± 0.04 hPa

Received Date: 3 September 2025

Calibration Date: 19 September 2025

Calibration Procedure: Air flow meter (CFM) by Comparison technique with Standard Weighing Flow Calibration

Reference Standard

Reference Standard	Model	Serial Number	Expiry Date	Due Calibration
Air Flow Meter	Calibrator 1 Low Flow	10701010006	Standard	1 May 2026
Air Flow Meter	Calibrator 1 Standard Flow	10701010003	Standard	6 May 2025
Temperature sensor	Q21-1	0000007	Quelcon	10 October 2025
Pressure sensor	ETG21-006	0000026/001000	TFS	20 October 2025

Traceability: This Certificate is traceable to SI Unit through Singapore A2LA Accreditation No. 2042181 and MET NRC (ISO 15 Accreditation No. 002)

Note: The reported uncertainty is based on combined uncertainty multiplied by the Coverage Factor k = 2, providing a level of confidence approximately 95 %

Calibration By: Mr. Suppachai Luangsom

Approved By: Mr. Pait Mueksorn

Service Calibration Engineer

Calibration Engineer Supervisor

Issue Date: 19 September 2025

The results stated only on the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Issuance Institution Co., Ltd.

TM-T08-ATM-01 Rev.36 Issue date 23/10/25

innovative BACMA ANAB

Certificate No.: RYG-2025-1067

Request No.: RYG-2025-1067

Result of Calibration - Without Adjustment

STD Reading				UUC Reading				Error		Uncertainty	
Temperatures (°C)	Pressure (kPa)	Flow (m³/min)	Flow (m³/min)	Temperatures (°C)	Pressure (kPa)	Flow (m³/min)	Flow (m³/min)	(m³/min)	(m³/min)	(°C)	(kPa)
23.5	101.98	100	—	—	—	100.02	9.9	0.6	1.0	0.30	0.30
23.7	101.97	100	—	—	—	100.01	9.9	0.5	1.0	0.30	0.30
23.8	101.99	100	—	—	—	100.04	9.9	0.6	1.0	0.30	0.30
24.1	101.98	2000	—	—	—	2001.9	7	38	1.0	0.30	0.30
24.5	101.93	3014	—	—	—	3007.7	47	67	1.0	0.30	0.30
24.7	101.91	4022	—	—	—	4009.9	476	70	1.0	0.30	0.30
27.0	101.74	3000	—	—	—	3001.0	46	67	1.0	0.30	0.30

Note: STD - Standard UUC - Unit Under Calibration

UUC Reference Condition: At atmospheric pressure and room temperature condition, Air []

Flow Rate was corrected for non-measured operating condition by using equation:

$$Q_{meas} = Q_{ref} \times \frac{P_{ref}}{P_{meas}} \times \frac{T_{meas}}{T_{ref}}$$

where: Q - Flow Rate P - Absolute Pressure T - Absolute Temperature

meas - Measurement Condition ref - Standard Condition

* Indication are corrected

End of Certificate

The results stated only on the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Issuance Institution Co., Ltd.

TM-T08-ATM-01 Rev.36 Issue date 23/10/25

Calibration Certificate 25BC0067 Calibration Certificate

Adjustment Status

The measuring device was internally adjusted before the calibration.

Environmental and measuring conditions

Date of calibration 03 Feb 2026

Temperature at place of calibration / Temp. diff. 24.5 °C / 0.5 K

Twelve - Seven

Measuring conditions The installation site is suitable. The device is level. Balance was loaded up to Max before test.

Comments: maximum 100 g tare.

Measurement results | Measurement uncertainties

Dependability

Test load (nominal): 10 g / 100 g		Eccentricity		Test load (nominal): 50 g	
10 g	100 g	Center	50 0000 g	50 0000 g	50 0000 g
1. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
2. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
3. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
4. 10.0001 g	100.0000 g	Point right	50.0001 g	50.0001 g	50.0001 g
5. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
6. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
7. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
8. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
9. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
10. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
11. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g
12. 10.0000 g	100.0000 g	Point left	50.0001 g	50.0001 g	50.0001 g

Maximum deviation from certified loading indication (Max deviation = 0.0001 g)

Error of indication

Test load	Indication	Error	Expansion factor	Uncertainty	Uncertainty relative
0.0100 g	0.0100 g	0.0000 g	1.00	0.00010 g	1.0 %
0.0500 g	0.0500 g	0.0000 g	2.00	0.00010 g	0.20 %
0.1000 g	0.1000 g	0.0000 g	2.00	0.00010 g	0.10 %
0.5000 g	0.5000 g	0.0000 g	7.00	0.00010 g	0.020 %
1.0000 g	1.0000 g	0.0000 g	2.00	0.00010 g	0.010 %
5.0000 g	5.0000 g	0.0000 g	7.00	0.00010 g	0.0020 %
10.0000 g	10.0000 g	0.0000 g	2.00	0.00010 g	0.0010 %
50.0000 g	50.0000 g	0.0000 g	7.00	0.00010 g	0.00020 %
100.0000 g	100.0000 g	0.0000 g	2.00	0.00010 g	0.00010 %

Maximum error of indication (Max = 0.0001 g)

UUC is the subject of 2025 test load. The uncertainty of measurement (UUC) is valid only if error is not exceeded. You will find reference notes on the certificate of measurement of the unit under calibration. The calibration certificate is the subject of measurement results.

Reference note: The reported uncertainty is based on combined uncertainty multiplied by the Coverage Factor k = 2, providing a level of confidence approximately 95 %

End of calibration certificate



Certificate of Calibration

Customer: ALB Laboratory Group Thailand Co., Ltd.

Request No.: RYG-2025-1068

Address: 104 Soi Phatthanaburi 40, Phatthanaburi Road, Nong Toeng, Bangkok 10250

Unit Under Calibration Details

Measurement Item: Air Flow Meter

Manufacturer: Mosa Lab

Model: 204-F100

Serial Number: 131114

Location of Calibration: LAB 4 AIR VELOCITY METER

Calibration Environment and Details

Temperature: 23.1 °C ± 0.2 °C

Humidity: 53.740% ± 0.140%

Barometric Pressure: 1013.42 hPa ± 0.04 hPa

Received Date: 3 September 2025

Calibration Date: 19 September 2025

Calibration Procedure: Air flow meter (CFM) by Comparison technique with Standard Weighing Flow Calibration

Reference Standard

Reference Standard	Model	Serial Number	Expiry Date	Due Calibration
Air Flow Meter	Calibrator 1 Low Flow	10701010006	Standard	1 May 2026
Air Flow Meter	Calibrator 1 Standard Flow	10701010003	Standard	6 May 2025
Temperature sensor	Q21-1	0000007	Quelcon	10 October 2025
Pressure sensor	ETG21-006	0000026/001000	TFS	20 October 2025

Traceability: This Certificate is traceable to SI Unit through Singapore A2LA Accreditation No. 2042181 and MET NRC (ISO 15 Accreditation No. 002)

Note: The reported uncertainty is based on combined uncertainty multiplied by the Coverage Factor k = 2, providing a level of confidence approximately 95 %

Calibration By: Mr. Suppachai Luangsom

Approved By: Mr. Pait Mueksorn

Service Calibration Engineer

Calibration Engineer Supervisor

Issue Date: 19 September 2025

The results stated only on the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Issuance Institution Co., Ltd.

TM-T08-ATM-01 Rev.36 Issue date 23/10/25

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Agent Credential Compliance Services

Certificate of System Qualification

GC-00

System ID: BNC_001010_G08

Organization Name: ALB Laboratory Group (Thailand) Co., Ltd.

Organization Location: 104 Soi 40 Phatthanaburi Rd., Khwaeng Nong Toeng, Khet Suan Luang, Bangkok 10250

Date: October 22, 2025 2:51:58 PM

EQP Name: Agent/Recommended

EQP Location: GC-00-01

Overall Qualification Status: Pass

1208 1-point Verification: GC

1-point: Sample Homophony

Overall CTR 1-point Verification: GC Test Status

Pass

System Inspection and Basic Safety and Operation

Name: 7890

Sequenced Status: Pass

Overall System Inspection and Basic Safety and Operation Test Status

Pass

Inlet Pressure Decay

Name: 7890

Front BSL

Sequenced Status: Pass

Pressure: 25.0 psi

Pressure Change: 0.4 psi

Agent Recommended: ++ 0.0 and ++ 0.5

Date: October 22, 2025 2:51:58 PM

System ID: BNC_001010_G08

Page 1/24

Interpretation of measurement results | Appendix to the calibration certificate

Uncertainty of measurement in use

Device adjusted before measurement Yes

Temperature deviation considered 1.5 K (No CAL active)

Temperature coefficient considered 1 - 10 °K

Uncertainty of the weighing result $U_p(W) = 0.00016 \text{ g} + 1.35 \cdot 10^{-4} \cdot R$

Reference note: The stated uncertainty of measurement is calculated by entering of the reading from the formula. It is valid only if the value of the measured quantity is within the range of the calibration certificate. The stated uncertainty of measurement is valid only if the value of the measured quantity is within the range of the calibration certificate. The stated uncertainty of measurement is valid only if the value of the measured quantity is within the range of the calibration certificate.

Indication in % from max load

Indication	Max	Uncertainty	Uncertainty relative
1 %	1.0000 g	0.00016 g	0.016 %
25 %	25.0000 g	0.00080 g	0.0032 %
50 %	50.0000 g	0.0016 g	0.0032 %
75 %	75.0000 g	0.0024 g	0.0032 %
100 %	100.0000 g	0.0032 g	0.0032 %

Graphic realization of the relative uncertainty of measurement | process accuracy

Process accuracy 100 %

Safety factor 3

Minimum sample weight 0.0030 g



Certificate of Calibration

Customer: ALB Laboratory Group Thailand Co., Ltd.

Request No.: RYG-2025-1069

Address: 104 Soi Phatthanaburi 40, Phatthanaburi Road, Nong Toeng, Bangkok 10250

Unit Under Calibration Details

Measurement Item: Air Flow Meter

Manufacturer: Mosa Lab

Model: 204-F100

Serial Number: 131114

Location of Calibration: LAB 4 AIR VELOCITY METER

Calibration Environment and Details

Temperature: 23.1 °C ± 0.2 °C

Humidity: 53.740% ± 0.140%

Barometric Pressure: 1013.42 hPa ± 0.04 hPa

Received Date: 3 September 2025

Calibration Date: 19 September 2025

Calibration Procedure: Air flow meter (CFM) by Comparison technique with Standard Weighing Flow Calibration

Reference Standard

Reference Standard	Model	Serial Number	Expiry Date	Due Calibration
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Temperature sensor	Q21-1	0000007	Quelcon	10 October 2025
Pressure sensor	ETG21-006	0000026/001000	TFS	20 October 2025

Traceability: This Certificate is traceable to SI Unit through Singapore A2LA Accreditation No. 2042181 and MET NRC (ISO 15 Accreditation No. 002)

Note: The reported uncertainty is based on combined uncertainty multiplied by the Coverage Factor k = 2, providing a level of confidence approximately 95 %

Calibration By: Mr. Suppachai Luangsom

Approved By: Mr. Pait Mueksorn

Service Calibration Engineer

Calibration Engineer Supervisor

Issue Date: 19 September 2025

The results stated only on the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Issuance Institution Co., Ltd.

TM-T08-ATM-01 Rev.36 Issue date 23/10/25

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Agent Credential Compliance Services

Certificate of System Qualification

GC-00

System ID: BNC_001010_G08

Organization Name: ALB Laboratory Group (Thailand) Co., Ltd.

Organization Location: 104 Soi 40 Phatthanaburi Rd., Khwaeng Nong Toeng, Khet Suan Luang, Bangkok 10250

Date: October 22, 2025 2:51:58 PM

EQP Name: Agent/Recommended

EQP Location: GC-00-01

Overall Qualification Status: Pass

1208 1-point Verification: GC

1-point: Sample Homophony

Overall CTR 1-point Verification: GC Test Status

Pass

System Inspection and Basic Safety and Operation

Name: 7890

Sequenced Status: Pass

Overall System Inspection and Basic Safety and Operation Test Status

Pass

Inlet Pressure Decay

Name: 7890

Front BSL

Sequenced Status: Pass

Pressure: 25.0 psi

Pressure Change: 0.4 psi

Agent Recommended: ++ 0.0 and ++ 0.5

Date: October 22, 2025 2:51:58 PM

System ID: BNC_001010_G08

Page 2/24

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Setpoint Status:

Pass

Setpoint

Actual

Inlet Pressure

25.0 psi

25.2 psi

Accuracy

0.2 psi

Agilent Recommended

± 1.2

Overall Inlet Pressure Accuracy Test Status

Pass

Detector Flow Accuracy

22111dijeulhule1

Detector Flow Accuracy

7890

Flow

FID

Setpoint Status:

Pass

Flow Type

Full

Setpoint

Measured Flow

30.0 mL/min

30.8 mL/min

Accuracy

0.8 mL/min

Agilent Recommended

± 10.0 % setpoint

(3.0 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Setpoint Status:

Pass

Flow Type

Carrier

Setpoint

Measured Flow

400.0 mL/min

398.0 mL/min

Accuracy

4.0 mL/min

Agilent Recommended

± 10.0 % setpoint

(40.0 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Setpoint Status:

Pass

Flow Type

Makeup

Setpoint

Measured Flow

25.0 mL/min

24.7 mL/min

Accuracy

0.3 mL/min

Agilent Recommended

± 10.0 % setpoint

(2.5 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Date:

October 22, 2025 2:51:58 PM

System ID:

BMK_E5012L_G08

Page 3 / 24

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Overall Detector Flow Accuracy Test Status

Pass

Detector Flow Accuracy

7890

Back

FID

Setpoint Status:

Pass

Flow Type

Full

Setpoint

Measured Flow

30.0 mL/min

29.5 mL/min

Accuracy

0.5 mL/min

Agilent Recommended

± 10.0 % setpoint

(3.0 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Setpoint Status:

Pass

Flow Type

Carrier

Setpoint

Measured Flow

400.0 mL/min

397.0 mL/min

Accuracy

3.0 mL/min

Agilent Recommended

± 10.0 % setpoint

(40.0 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Setpoint Status:

Pass

Flow Type

Makeup

Setpoint

Measured Flow

25.0 mL/min

24.8 mL/min

Accuracy

0.2 mL/min

Agilent Recommended

± 10.0 % setpoint

(2.5 mL/min)

Limit is percentage of setpoint or 0.5 mL/min, whichever is largest.

Overall Detector Flow Accuracy Test Status

Pass

Detector Flow Accuracy

7890

Back

FID

Date:

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System ID:

BMK_E5012L_G08

Page 4 / 24

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Setpoint Status:

Pass

Zone

Oven

Setpoint/Actual

229.1 °C

Temperature

230.8

Accuracy

-0.9 °C

Agilent Recommended

± 1.0 % setpoint in K

(-0.9 °C)

± 1.0 % setpoint in K

(5.0 °C)

Setpoint Status:

Pass

Zone

Oven

Setpoint/Actual

99.9 °C

Temperature

100.0

Accuracy

-0.1 °C

Agilent Recommended

± 1.0 % setpoint in K

(3.7 °C)

± 1.0 % setpoint in K

(3.7 °C)

Overall GC Oven Temperature Accuracy Test Status

Pass

GC Oven Temperature Stability

7890

Setpoint Status:

Pass

Setpoint/Average

99.25 °C

Temperature

100.0

Stability

0.1 °C

Agilent Recommended

± 0.5

Overall GC Oven Temperature Stability Test Status

Pass

Scanning Run

7890A

Front

SBL

/ Front

FID

Name:

7890A

Date:

October 22, 2025 2:51:58 PM

System ID:

BMK_E5012L_G08

Page 5 / 24

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Setpoint Status:

Completed

Injection Volume on Column:

1.0 µL

Overall Scanning Run Status

Completed

Noise and Drift

7890

Front

SBL

/ Front

FID

Setpoint Status:

Pass

Noise Signal

14.3 µA

ASTM Noise

0.05 pA

Drift

0.03 pA/h

Agilent Recommended

± 0.10

Status

Pass

Overall Noise and Drift Test Status

Pass

Injection Precision

7890A

Front

SBL

/ Front

FID

Setpoint Status:

Pass

Injection Volume on Column:

1.0 µL

Area (FID)

0.33 %

Agilent Recommended

± 3.00

Retention Time (FID)

0.10 %

± 1.00

Overall Injection Precision Test Status

Pass

Signal to Noise

7890

Back

SBL

/ Back

FID

Date:

October 22, 2025 2:51:58 PM

System ID:

BMK_E5012L_G08

Page 6 / 24

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Tested Combination1

Front

SBL

/ Front

FID

Name:

7890

Setpoint Status:

Pass

Signal to Noise

1309680

Agilent Recommended

± 300000

Overall Signal to Noise Test Status

Pass

Scanning Run

7890A

Back

SBL

/ Back

FID

Tested Combination2

Back

SBL

/ Back

FID

Name:

7890A

Setpoint Status:

Completed

Injection Volume on Column:

1.0 µL

Overall Scanning Run Status

Completed

Noise and Drift

7890

Back

SBL

/ Back

FID

Setpoint Status:

Pass

Base Signal

13.3 pA

ASTM Noise

0.08 pA

Drift

0.01 pA/h

Agilent Recommended

± 0.10

Status

Pass

Overall Signal to Noise Test Status

Pass

Date:

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System ID:

BMK_E5012L_G08

Page 7 / 24

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Overall Noise and Drift Test Status

Pass

Injection Precision

7890A

Back

SBL

/ Back

FID

Setpoint Status:

Pass

Injection Volume on Column:

1.0 µL

Area (FID)

0.43 %

Agilent Recommended

± 3.00

Retention Time (FID)

0.08 %

± 1.00

Overall Injection Precision Test Status

Pass

Signal to Noise

7890

Back

SBL

/ Back

FID

Tested Combination2

Back

SBL

/ Back

FID

Name:

7890

Setpoint Status:

Pass

Signal to Noise

1251862

Agilent Recommended

± 300000

Overall Signal to Noise Test Status

Pass

Date:

October 22, 2025 2:51:58 PM

System ID:

BMK_E5012L_G08

Page 8 / 24

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Agilent CrossLab Compliance Services

Instrument Details

Purpose:

This section describes the as found system configuration.

Details

System

System ID

Manufacturer

Name

Flow Data Input

Temperature Data Input

System

BMK_E5012L_G08

Agilent Technologies

7890

Flow Data Input

Manual Data or Other Data Logging

Tested Combination1

Injection Technique

Sample Identifier

Inlet

Detector

LTM Included?

Tested Combination1

Injection Technique

Sample Identifier

Inlet

Detector

LTM Included?

Tested Combination2

Injection Technique

Sample Identifier

Inlet

Detector

LTM Included?

Tested Combination2

Injection Technique

Sample Identifier

Inlet

Detector

LTM Included?

Sampler 1

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Sampler 1

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Date:

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System ID:

BMK_E5012L_G08

Page 9 / 24

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Sampler 2

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Sampler 2

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Sampler 3

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Sampler 3

Manufacturer

Type

Name

Model Number

Serial Number

Firmware Revision

Usage

Location

Syringe Volume (µL)

Manifolds 1

Manufacturer

Name

Model Number

Serial Number

Firmware Revision

Component (Exhaust No.)

Open Type

Manifolds 1

Manufacturer

Name

Model Number

Serial Number

Firmware Revision

Component (Exhaust No.)

Open Type

Date:

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System ID:

BMK_E5012L_G08

Page 10 / 24

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Inlet 1

Manufacturer

Name

Type

Location

Carrier Gas

Control Type

Purged Inlet

Inlet 1

Manufacturer

Name

Type

Location

Carrier Gas

Control Type

Purged Inlet

Inlet 2

Manufacturer

Name

Type

Location

Carrier Gas

Control Type

Purged Inlet

Inlet 2

Manufacturer

Name

Type

Location

Carrier Gas

Control Type

Purged Inlet

Detector 1

Manufacturer

Name

Type

Adapter

Control Type

Location

Makeup Gas

Detector 1

Manufacturer

Name

Type

Adapter

Control Type

Location

Makeup Gas

Detector 2

Manufacturer

Name

Type

Adapter

Control Type

Location

Makeup Gas

Detector 2

Manufacturer

Name

Type

Adapter

Control Type

Location

Makeup Gas

Date:

October 22, 2025 2:51:58 PM

System ID:

BMK_E5012L_G08

Page 11 / 24

CERTIFICATE OF CALIBRATION		RYG_F5021
ISSUED BY	Cinrus Research plc	Page 1 of 2 Approved signature N Smith Electronically signed:
(DATE OF ISSUE)	10 March 2026	
CERTIFICATE NUMBER 261147		
Cinrus Research plc Acoustic House Brillington Road Humankind North Yorkshire YO14 1NU United Kingdom		
doseBadge Reader : IEC 60942 : 2003		
Instrument information		
Manufacturer:	Cinrus Research plc	Notes:
Model:	RC-110A	
Serial number:	73729	
Class:	2	
Test summary		
Date of calibration: 10 March 2026		
The doseBadge reader detailed above has been calibrated to the published data as described in the conforming manual and in the half-hour configuration. The procedures and techniques used are as described in IEC60942:2003 Annex B – Periodic Tests and three determinations of the sound pressure level, frequency and total distortion were made. The sound pressure level was measured using a WGSF condenser microphone type MK24 manufactured by Cinrus Research plc. The results have been compared to the reference pressure of 101.33 kPa using the manufacturer's data: The doseBadge Reader has been shown to conform to its Class 2 requirements for particle loading, described in Annex B of IEC 60942:2003 for the sound pressure level(s) and frequency(s) stated, for the environmental conditions under which the tests were performed. However, as public evidence was not available, from a leading organisation responsible for performance approval, to demonstrate that the model of doseBadge Reader conformed to the requirements for performance of the doseBadge Reader to the requirements of IEC 60942:2003, no general statement or conclusion can be made about conformance of the doseBadge Reader to the requirements of IEC 60942:2003.		
Notes:		
RETURN BY:		RETURNED BY:
RECEIVED BY:		
RECEIVED DATE: 09 Mar 2027		

CERTIFICATE OF CALIBRATION

Certificate Number:
261147
Page 2 of 2

Environmental conditions

The following conditions were recorded at the time of this test

Before Pressure: 100.42 kPa Temperature: 22.8 °C Humidity: 38.5 %
After Pressure: 100.42 kPa Temperature: 22.8 °C Humidity: 47 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Distortion Meter	Kithley	2015	0930404
Environmental Monitor	Comet	77510	2196208

Initial Acoustic Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Tolerance	Uncertainty
Level (dB)	114.00	113.83	113.94	113.93	113.93	-0.07	±0.75	0.11 dB
Distortion (%)	< 4.00	0.87	0.82	0.79	0.83	0.83	+4.00	0.13 %
Frequency (Hz)	1000.0	999.2	998.2	998.2	998.2	-1.8	±20.0	0.1 Hz

The measured quantities or deviations (as applicable), extended by the expanded combined uncertainty of measurement, must not exceed the corresponding tolerance.

Adjusted Acoustic Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Tolerance	Uncertainty
Level (dB)	114.00	114.00	113.97	113.97	113.98	-0.02	±0.75	0.11 dB
Distortion (%)	< 4.00	0.75	0.72	0.80	0.76	0.75	+4.00	0.13 %
Frequency (Hz)	1000.0	998.2	998.2	998.2	998.2	-1.8	±20.0	0.1 Hz

Functionality Results

Function	Result
Keypad	Pass
Battery Power	Pass
Display	Pass
Communication	Pass
Timing (64 bits)	Pass
Clock	Pass

CERTIFICATE OF VALIDATION

RYG_FS0059

ISSUED BY: **Cirrus Research plc**

DATE OF ISSUE: **17 September 2025** CERTIFICATE NUMBER: **24959**

Page 1 of 5

Approved signatory
N.Smith
Electronically signed:





Cirrus Research plc
Acoustic House
Brillington Road
Hummaby
North Yorkshire
YO14 9PH
United Kingdom

Dosimeter : IEC 61252-1993+A1:2000

Instrument Information

Manufacturer:	Cirrus Research plc	Notex
Model:	CR-110AUS	
Serial number:	YF577	
Firmware version:	5.4	

Test summary

Date of calibration: 16 September 2025

The calibration was performed against the requirements of ISO/IEC 17025:2017.

The dosimeter submitted for testing successfully completed the periodic tests of IEC 61252-1993+A1:2000.

The dosimeter submitted for testing conforms to the specifications in IEC 61252-1993+A1:2000.

Test equipment

Equipment	Manufacturer	Model	Serial number
Signal Generator	SGI ENT	SGO1102IX	SGO11XDD0766628
Attenuator	Cirrus Research	ZF 952	98919
Environmental Monitor	Comet	77510	16895334
dosEcheck Reader	Cirrus Research plc	UNID84A	82610

Notes

KEYED BY: 

APPROVED BY: 

NEXT CAL DATE: 15/09/2026

This certificate provides traceability of measurement to the SI system of units prior to units of measurement realised at the National Physical Laboratory or other recognised national measuring facilities. This certificate will not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%.

CERTIFICATE OF CALIBRATION		Certificate Number: 249589
		Page 2 of 6

Environmental conditions

The following conditions were recorded at the time of the test:

Before	Pressure: 100.61 kPa	Temperature: 23.3 °C	Humidity: 39.8 %
After	Pressure: 100.62 kPa	Temperature: 23.6 °C	Humidity: 40.8 %

Test results summary

Test	Result
Absolute Acoustic Sensitivity	Complies
Linearity	Complies
Short Duration	Complies
Overload Latching	Complies
Frequency weighting	Complies

CERTIFICATE OF CALIBRATION

Certificate Number

248509

Page 3 of 6

Laboratory uncertainties

Requirement	Value
Absolute acoustic sensitivity	0.2 dB
Level linearity	0.15 dB
Short duration signals	0.2 dB
Overload latching indication	0.2 dB
Electrical freq. weighting 125 Hz	0.15 dB
Electrical freq. weighting 8 kHz	0.15 dB

CERTIFICATE OF CALIBRATION

Certificate Number:
245509
Page 4 of 6

B1: Absolute Acoustical Sensitivity

Result: **Passed**

Frequency: 1000 Hz

Uncertainty: 0.2 dB

Name	Input Level (dB)	Reading (dB)	Deviation (dB)	Limits (dB)
Initial	114	114.80	-0.8	113 / 115
Adjusted	114	114.00	0	113 / 115

B2: Linearity Of Response To Steady Signals

Result: **Passed**

Frequency: 1000 Hz

Uncertainty: 0.2 dB

Range: 80 – 130 dB

Input Level (dB)	Expected Exposure (Pa ² /s)	Exposure (Pa ² /s)	Duration (s)	Deviation (Pa ² /s)	Limits (Pa ² /s)	Deviation (%)	Limits (%)
80	0.00022	0.000267	20	-0.000045	0.00175 / 0.000280	26	-21 / +26
90	0.00222	0.00212	20	0.000100	0.001753 / 0.002800	-6	-21 / +26
100	0.02222	0.020736	20	0.001483	0.017555 / 0.030000	-7	-21 / +26
110	0.22222	0.207360	20	0.014832	0.17555 / 0.300000	-7	-21 / +26
120	2.22222	2.122206	20	0.100016	1.75555 / 3.000000	-5	-21 / +26
130	22.22223	23.269524	20	-1.047301	17.55556 / 28.000001	5	-21 / +26

INNOVATIVE INSTRUMENT CALIBRATION LAB
INNOVATIVE INSTRUMENT CO., LTD. HEAD OFFICE
7/104 MOA 15, 104 PHATHANAKAN 40, PHATHANAKAN ROAD, KHAO YAI, BANGKOK, 10150 THAILAND
TEL: 089-0233-0880 FAX: 089-0233-7540



Certificate of Calibration

Customer:
Name: A.S. Laboratory Group Thailand Co., Ltd.
Address: 104 Soi Phatthanakan 40, Phatthanakan Road, Sam Lung, Bangkok 10250

Certificate No.: 26-ACT-007
Request No.: Req2026-0041

Unit Under Calibration Details

Measurement item: Acoustic Calibration
Manufacturer: RION
Model: NC-54
Serial Number: 14170121
ID: RYU1_F500113

Class: 1
Range: 94 dB / 1000 Hz
Inspection Status: Used

Calibration Environment and Details

Temperature: (23 ± 0.2 °C)
Humidity: (50 ± 20 %RH)
Barometric Pressure: (1013 ± 0.01 hPa)
Received Date: 7 January 2026
Calibration Date: 9 January 2026
Location of Calibration: LAB 1 Acoustic
Calibration Procedure: In-house method CP-ACT-02 based on IEC 60942:2017 Electroacoustics – Sound calibrations


APPROVED BY: Mr. Pait Muthasorn
DATE: 09/01/2026

Reference Standard	Model	Serial Number	Traceable	Due Calibration
Sound Calibrator	SV-35A	58678	IEC	20 June 2026
THD Multimeter	2015	1047765	NIST	4 February 2026

Traceability

* This certificate provides traceability of measurement to recognized national standard, and to the realization of the international system of Units (SI).

Note

The reported uncertainty is based on standard uncertainty multiplied by the Coverage Factor k=2, providing a level of confidence approximately 95 %.

Calibrated By:

Mr. Pait Muthasorn
Service Calibration Engineer

Approved By:

Mr. Pait Muthasorn
Calibration Engineer Supervisor

Issue Date:

9 January 2026

The document created by the user is marked. The user has marked the document as a full, authentic and original copy of the document (document 1.1.1)

File: 2026-0041-02 Rev.001 Issue Date: 11/01/2026

CERTIFICATE OF CALIBRATION

Certificate Number:
245509
Page 5 of 6

B3: Frequency Weightings

Result: **Passed**

Reference Frequency: 1000 Hz

Reference Exposure: 4.9021511402792

Reference Input Level: 127 dB

Duration: 10 Seconds

Frequency (Hz)	Exposure (Pa ² /s)	Exposure Ratio	Ratio Limit	Uncertainty
125	0.100582	0.0219	0.0174 / 0.0347	0.15
8000	1.975895	0.3981	0.246 / 2.455	0.15

B4: Short-Duration Signals

Result: **Passed**

Uncertainty: 0.2 dB

Frequency: 4000 Hz

Input Level (dB)	Burst Level (dB)	Ratio	Duration (s)	Burst Duration (ms)	Duration Between Bursts (ms)	Expected Exposure (Pa ² /s)	Exposure (Pa ² /s)	Deviation (%)	Limits (%)
114	90	1:100	14	10	990	0.004007	0.004919	2	-21 / +26
129	100	1:1000	10	1	999	0.010058	0.010058	0	-29 / +41

CERTIFICATE OF CALIBRATION

Certificate Number:
245509
Page 6 of 6

B6: Latching Overload Indicator

Result: **Passed**

Frequency: 1000 Hz

Uncertainty: 0.2 dB

Level (dB)	Exceeded To Overload	Overloaded
130	No	No
133	Yes	Yes

End of results

INNOVATIVE INSTRUMENT CALIBRATION LAB
INNOVATIVE INSTRUMENT CO., LTD. HEAD OFFICE
7/104 MOA 15, 104 PHATHANAKAN 40, PHATHANAKAN ROAD, KHAO YAI, BANGKOK, 10150 THAILAND
TEL: 089-0233-0880 FAX: 089-0233-7540



Certificate No.: 26-ACT-007

Request No.: Req2026-0043

Sound pressure level

Calibration Results - Without Adjustment

Calibration Range (dB)	Without Adjustment (dB)	Adjusted (dB)	Uncertainty (± dB)
94 dB / 1000 Hz	94.00	93.99	-

Frequency of Sound pressure level

Calibration Results - Without Adjustment

Calibration Range (Hz)	Without Adjustment (Hz)	Adjusted (Hz)	Uncertainty (± %)
94 dB / 1000 Hz	9999.99	9999.99	0.0000

Total harmonic distortion plus value of sound pressure level (THD+N %)

Calibration Results - Without Adjustment

Calibration Range (dB)	Without Adjustment (%)	Adjusted (%)	Uncertainty (± %)
94 dB / 1000 Hz	1.81	-	0.17

Note:

* The calibration results include the calibration process control.
* The calibration results include the acceptance without correction.

End of Calibration

SITHIPORN ASSOCIATES CO., LTD.
CALIBRATION LABORATORY



Cert. No.: ACL24075

Page: 1 of 8

Calibration Certificate

Equipment:

Manufacturer:

Model:

Serial No.:

ID No.:

SOUND LEVEL METER

RION

NI-42 / Microphone UC-52 / Preamplifier NIU-24

01122607 / 145554 / 34375

RYG_F50019

Condition As Found:

GOOD

Customer:

AL.S LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATHANAKAN 40, PHATHANAKAN ROAD,
KHWAENG PHATHANAKAN, KHUET SAN LUANG,
BANGKOK, 10250 THAILAND.

Location:

Ambient Temperature:

Pressure:

Relative Humidity:

-

(23.0 ± 3) °C

(101.3 ± 3) kPa

(50.0 ± 20) %

Received Date:

Calibration Date:

Date of Issue:

05 JANUARY 2026

31-23 JANUARY 2026

26 JANUARY 2026

Calibrated by:

Approved by:

Nathakorn Pritpasorn

(Nithorn Sriwan)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

REVIEW BY: Mr. Pait Muthasorn
APPROVED BY: Mr. Pait Muthasorn
ISSUE DATE: 09/01/2026

SITHIPORN associates

SITHIPORN ASSOCIATES
CALIBRATION LABORATORY

Cert. No.: ACL24075

Job No.: VCBAC0853

Pages: 2 of 8

Calibration Procedure:

CP-AC-01

Calibration Method:

This equipment was calibrated by follow on IEC 61672-3 (2015) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weightings with Acoustic chamber and Reference Standard Instruments.
For test results of each item were made by observation of each instrument display and also with SLM's display.

Condition of this result of calibration:

1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY08017076	TF-0011-25	11 FEB-26
Waveform Generator	33511B	MY32307242	EF-0012-25	11 FEB-26
Digital Multimeter	33461A	MY32200104	EEL-0013-26	22 APR-26
Digital Multimeter	33461A	MY32200076	EEL-0014-26	22 APR-26
Digital Multimeter	34461A	MY90034273	CA20231205A	19-MAR-26
Programmable Attenuator	MAX1-1070	84300114	13-0006-25	11-FEB-26
Condenser Microphone	4180	2977900	AA-1002-25	19-FEB-26
Measuring Amplifier	NA-42EAI	34560495	AA-3002-25	19-FEB-26

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.
3. This certificate is traceable to the international system of unit maintained at:
3.1 National Institute of Metrology (Thailand).
3.2 Thailand Institute of Scientific and Technological Research (TISTR).
3.3 Electrical And Electronics Institute (EEI).

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CALIBRATION LABORATORY

Cert. No.: ACL24075

Job No.: VCBAC0853

Pages: 3 of 8

Summary of Measurement Result:

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C-weight level	0.3	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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CALIBRATION LABORATORY

Cert. No.: ACL24075

Job No.: VCBAC0853

Page: 4 of 8

Result of calibration:

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (01.94)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
18.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Weighting (dB)
A-weight	18.8
C-weight	17.4
Flat	25.1

3. Acoustical signal tests of frequency weightings

Mean free field acoustic response at a level of 94 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)
125	-0.7
1000	-0.1
8000	-1.3

Cert. No. : ACL20075
Job No. : VCBAC005
Page : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
43	-0.1	-0.1	-0.1	±2.0
125	-0.1	0.0	0.0	±1.5
250	-0.1	-0.1	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Leq	94.0	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

Cert. No. : ACL20075
Job No. : VCBAC005
Page : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	136.9	-0.1	±1.1
136.0	135.9	-0.1	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	132.8	-0.1	±1.1
132.0	131.9	-0.1	±1.1
131.0	130.9	-0.1	±1.1
129.0	128.9	-0.1	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
29.0	29.0	0.0	±1.1
24.0	24.0	0.0	±1.1
19.0	19.0	0.0	±1.1
14.0	14.0	0.0	±1.1
9.0	9.0	0.0	±1.1
4.0	4.0	0.0	±1.1

Cert. No. : ACL20075
Job No. : VCBAC005
Page : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	94.0	94.0	0.0	±1.1

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	29.0	28.9	-0.1	±1.1

9. Time burst response

Time Weighting	Time burst duration, T _b (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	116.9	-0.1	1.0; -2.5
Slow	2	8	108.0	108.0	0.0	1.0; -5.0
	300	800	127.8	127.8	0.0	1.0
SPL	0.25	1	99.0	98.8	-0.2	1.5; -5.0
	2	8	108.0	108.0	0.0	1.0; -2.5
	300	800	138.0	138.0	0.0	1.0

Cert. No. : ACL20075
Job No. : VCBAC005
Page : 8 of 8

10. Peak Current level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	130.0	130.0	0.0	±3.0
One	133.4	133.4	0.0	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one half cycle	89.5	-0.1
Negative one half cycle	89.5	-0.1

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Certificate of Calibration

Cert. No.: 25C1047
Page: 1 of 3

Equipment:
Manufacturer:
Model:
Serial No.:
ID No.:
Condition As-Received:
Received Date:
Calibration Date:
Reference:
Submitted by:

pH Meter
Mettler Toledo
SevenCompact
C104050400
RYS_P01193
Used Item:
17 July 2025
18 July 2025
2507 00610UGG J
ALS Laboratory Group (Thailand) Co., Ltd.
Rayong Branch
616/10 Moo 5, T. Maenam Khu,
A. Phukdang, Rayong 21140, Thailand

REVIEW BY: Pholchanas
APPROVED BY: Dhanas
NEXT CAL DATE: 18/01/27

Ambient Temperature:
Relative Humidity:
Calibration Procedure:

(25 ± 2) °C
(50 ± 15) %
In-house method:
- CP-CMS by direct measurement with DC voltage
standard and direct measurement with
certified reference material (CRM)
- CP-CMS by comparison with temperature standard

Calibrated by:

Waisak Sathap
Approved Signatory

Approved by:
() Chant Wawwanjua
() Porpan Pajam
(✓) Sathap Meangmai
Issue Date:

21 July 2025

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 2: Equipment Calibration and Testing Services.

Conditions of this calibration report

- Reference Standard Instrument
- Instrument
- Document Process Calibration
- Ref. Standard Thermometer
- Calibrated Reference Materials

1) Document Process Calibration
2) Ref. Standard Thermometer
3) This measurement result is traceable to SI through Technology Promotion Association (Thailand + Japan)
4) The measurement results are traceable to SI through CPA Chem Ltd.,
NIST/ASO National Accreditation Board, Accredited No. AR-1835

5. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration Results

Function: mV Measurement

Performing standard curve by Document Process Calibration at pH (4.7, 10)

Calibration	Input				[mV]	k
	pH	mV	mV	pH		
pH Meter	4.000	177.46	177.3	4.000	0.058	2.00
5.00 C104059442	7.000	0.00	-0.2	7.000	0.008	2.00
	10.000	-177.48	-177.6	10.000	0.058	2.00

Cert. No.: 25C1047
Page: 3 of 3

Calibration Results

Function: pH Measurement

Performing three buffer standard curve by using buffer nominal pH (4.7, 10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement (pH)	Coverage Factor k
pH Electrode	4.007	4.008	164.6	0.0044	2.00
ISE: C1040506	6.865	6.906	10.2	0.0084	2.00
	10.010	10.009	164.9	0.0065	2.00

Function: Temperature Measurement

(*) Without adjustment

This equipment was corrected with Temperature Probe.

Model: JLabExpert Pro (B)

- Serial No: 6240606

- Dimension of probe:

- Length: 120 mm

- Diameter: 12 mm

- Immersion Depth: 100 mm

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of Measurement (k °C)	Coverage Factor k
25.0	25.001	25.0	-0.001	0.13	2.00

Remark: UUC* = Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k , providing a level of confidence of approximately 95 %

Certificate of Calibration

Certificate No.: 25C1072
Page: 1 of 2

Equipment:
Manufacturer:
Model:
Serial No.:
ID No.:
Condition As-Received:
Received Date:
Calibration Date:
Reference:
Ambient Temperature:
Relative Humidity:

pH Meter
Mettler Toledo
SevenCompact 5220
L7016A080
RYS_P01183
Used Item:
17 July 2025
22 July 2025
2507 00610UGG J
ALS Laboratory Group (Thailand) Co., Ltd.
Rayong Branch
616/10 Moo 5, T. Maenam Khu, A. Phukdang,
Rayong 21140, Thailand

Procedure used: Calibration was conducted using calibration procedure No. CP-2-1F according to EURAMET 10-10

Conditions of this result of calibration

- Reference standards instrument:
- Multi-Point Calibration
- This result of calibration was made on requested at the point specified by customer.
- This certificate is valid only to the item calibrated on date and place of calibration.
- The measurement result is traceable to the International System of Unit maintained through:
- Technology Promotion Association (Thailand-Japan) NIST/CPAC Accredited for Calibration 0008

Calibrated by: Hapachorn Prasomman
Issue Date: 23 July 2025

Approved Signatory:
() Pholchan Pholchanas
() Pholchan Pholchanas
(✓) Porpan Pajam

Cert. No.: 25C1072
Page: 2 of 2

Result of calibration: (*) Without adjustment () After adjustment

Function: DC voltage measurement	Standard Value	UUC* Reading	Range:	2500 mV	Error	Uncertainty
	(mV)	(mV)			(mV)	(µV)
	-200.0000	-200.0			0.0	68
	-150.0000	-150.0			0.0	65
	-100.0000	-100.0			0.0	63
	-50.0000	-50.0			0.0	61
	0.0000	0.0			0.0	58
	50.0000	49.9			-0.1	61
	100.0000	99.9			-0.1	63
	150.0000	149.9			-0.1	65
	200.0000	199.9			-0.1	68

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95 %

UUC* = Unit Under Calibration.

Certificate of Calibration

Cert. No.: 25LM10
Page: 1 of 2

Equipment : DO Meter with Sensor
Manufacturer : YSI
Model : 5005-115V
Serial No. : 13E102796
ID No. : RYG_E98032
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
(Rayong Branch)
610/10 Moo 5 T. Maenam Khu. A. Phukdaeng,
Rayong 21140 Thailand
Location : TPA On Site Calibration Laboratory
Received Order : 17 January 2025
Calibrated Date : 20 January 2025
Ambient Temperature : (20 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (230 ± 22) V
Calibrated by : Warakorn Lemgattalai
Approved by : 
() Chakrit Wannawong
(✓) Suwit Inga
() Kanchit Promprat
Issue Date : 23 January 2025

REVIEW BY: 
APPROVED BY: 
NEXT CAL DATE: 20/07/26

The Uncertainties are for a confidence probability of approximately 95%
This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services

Equipment : DO Meter with Sensor
Condition As-Received : Used Item
Reference : 2501-00005C-2
Page: 2 of 2

Calibration was conducted using in-house calibration procedure CP-OT01 according to comparison with
Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath.
The temperature scale used was based on ITS-90.
Condition of this result of calibration:
1. Reference standard instrument:
Instrument : Serial No. : Cert. No. : Traceable : Due Date :
1) Digital Thermometer : 2188060 : 241022 : TPA : 17 Sep 2025
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.
Remark : TPA, Technology Promotion Association (Thailand - Japan)
Result of Calibration : (°C) Without Adjustment
Function : Temperature measurement
This instrument was connected with temperature sensor, SN: 15E100044

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC ^a Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
20.00	60	20.002	19.81	-0.192	0.15	2.00

UUC^a : Unit Under Calibration
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %

-00-

Certificate of Testing

Cert. No.: 25TW15
Page: 1 of 2

Equipment : DO Meter
Manufacturer : YSI
Model : 5005-115V
Serial No. : 13E102796
ID No. : RYG_E98032
Received Date : 17 January 2025
Test Date : 20 January 2025
Reference : 2501-00005C-1
Submitted by : ALS Laboratory Group (Thailand) Co. Ltd.
(Rayong Branch)
610/10 Moo 5, T. Maenam Khu. A. Phukdaeng,
Rayong 21140, Thailand
Laboratory Condition : Temperature : (25 ± 5) °C
Humidity : (50 ± 20) %
Test Procedure : In-house method : CP-045
by Comparison Technique with Aids Modification Method
Tested by : Wabakir Sathap
Approved by : 
() Pichana Sathap
() Porpan Pajim
(✓) Sathap Muangmai
Issue Date : 21 January 2025

Cert. No.: 25TW15
Page: 2 of 2

Condition of this result of calibration

- Reference Standard Instruments:
This certification is traceable to the International System of Unit through the reference standards
laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan)
Instruments : Serial No. : ID No. : Certificate No. : Due Date :
1. Burette : 1388210 : 2301172 : 24M0111 : 04 July 2025
2. Balance : 1423821 : 110K001 : 24M0111 : 04 July 2025
- Standard Material:
Material : Manufacturer : Lot No. : Amount :
Sodium Thiosulfate Solution AR : KJMAUS : 770310147 : 99.9%

Result : Dissolved Oxygen Meter Adjustment With Air 100 %
Dissolved Oxygen Probe No. : 15E100464

Titration Method (Acide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.20	8.20	0.0094

This report was issued only for the instrument we tested. It is advisable to use for study
intended to use for advertising and sales purposes is prohibited. This report may not be reproduced
other than in full, without written approval of the laboratory

-00-

Certificate of Calibration

Cert. No.: 25T54401
Page: 1 of 3

Equipment : Low Temp. Incubator
Manufacturer : Memmert
Model : H40/50
Serial No. : V818 0584
ID No. : RYG_L30154
Submitted by : ALS Laboratory Group (Thailand) Co. Ltd. Rayong Branch
610/10 Moo 5, T. Maenam Khu. A. Phukdaeng,
Rayong 21140, Thailand
Location : BOD Room
Received Order : 18 March 2025
Calibration Date : 18 March 2025
Ambient Temperature : (20 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (230 ± 22) V
Calibrated by : Pichana Sathap
Approved by : 
() Chakrit Wannawong
() Suwit Inga
(✓) Kanchit Promprat
Issue Date : 31 March 2025

The Uncertainties are for a confidence probability of approximately 95%
This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services

Cert. No.: 25T54401
Page: 2 of 3

Calibration was conducted using calibration procedure CP-OT02 based on IAS C-20 according to direct
measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD).
The temperature scale used was based on ITS-90.
Condition of this result of calibration:
1. Reference standard instrument:
Instrument : Serial No. : Cert. No. : Traceable : Due Date :
1) Data Acquisition : MY402/3032 : 25M121 : TPA : 27 Jul 2026
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This measurement result is traceable to the International System of Unit maintained through:
Remark : TPA, Technology Promotion Association (Thailand - Japan)
Result of Calibration : (°C) Without Adjustment
Function of UUC^a : Temperature Source
Fresh air setting : Not Available

Environment during calibration		
Temp. (°C)	Beginning	Finished
REL Humid. (%)	37	33
AC Supply (Voh)	220	221

Position	Ref. Std. ID No.
1	19-10RTD-01
2	19-10RTD-02
3	19-10RTD-03
4	25-10RTD-04
5	19-10RTD-05
6	19-10RTD-06
7	25-10RTD-07
8	19-10RTD-08
9 (ref.)	19-10RTD-09

Probe Installation Details :
a = 10 mm
b = 10 mm
c = 10 mm
Dimension of Chamber :
D = 0.60 m
W = 1.0 m
H = 1.7 m
Capacity = 0.77 m³

Cert. No.: 25T54401
Page: 3 of 3

Equipment : Low Temp. Incubator
Condition As-Received : New Item
Reference : 2503 05020C-2
Result of Calibration : (°C) Without Adjustment
Function of UUC^a : Temperature Source
Fresh air setting : Not Available

Calibration Point (°C)	UUC ^a Reading (°C)	UUC ^a Resolution (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
20.0	20.0	20.0	0.019	0.19	0.34	2

Average^a : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one source
Temperature uniformity : The maximum difference of measured temperatures at any one source and the measured
temperature at the reference location, which was observed at the same time or at as close an observation time as
possible to determine the temperature pattern or homogeneity within the chamber under steady state conditions.
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.
UUC^a : Unit Under Calibration
Note : The reported uncertainty of measurement was included stability and excluded uniformity.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage
factor k, providing a level of confidence of approximately 95 %

-00-

Certificate of Calibration

Cert. No.: 25T53668
Page: 1 of 2

Equipment : Burette
Capacity : 50 mL
Serial No. : RYGL_1302716
ID No. : RYG_L302716
Manufacturer : Wika
Made in : Germany
Submitted by : ALS Laboratory Group (Thailand) Co. Ltd.
Rayong Branch
610/10 Moo 5, T. Maenam Khu. A. Phukdaeng,
Rayong 21140, Thailand
Ambient Temperature : (20 ± 2.5) °C
Relative Humidity : (50 ± 10) %
Barometric Pressure : 763 mmHg
Calibration Procedure : ASTM E 542 - 01
Calibrated by : Brinda Khattar
Approved by : 
() Porpan Pajim
(✓) Chakrit Wannawong
Issue Date : 19 September 2025

The Uncertainties are for a confidence probability of approximately 95%
This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services

Cert. No.: 25T53668
Page: 2 of 2

Condition of this result of calibration:
1. Reference Standard Instruments:
Instruments : Model : Serial No. : ID No. : Certificate No. : Traceability : Due Date :
1) Balance : XP205 : 8134250712 : 140H367 : 25M0356 : TPA : 16 July 2026
2) Humidity/Sensor/Temp : MHS-182010 : AM 42259 : 1402C016 : 2511816 : TPA : 14 Aug 2026
3) Digital Thermometer : H1518 : 230808555 : 140E013 : 2511740 : TPA : 17 Jan 2026
This measurement result is traceable to SI Unit
2. The certificate is valid only to the item calibrated on date and place of calibration
3. This value is converted to true volume at the standard temperature of 20 °C

Nominal Capacity (mL)	Reading (mL)	Uncertainty (± mL)	k Factor
10	10.0294	0.0062	2.00
25	25.0141	0.0067	2.00
50	49.9952	0.010	2.00

Remark : mL = cm³
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage
factor k, providing a level of confidence of approximately 95 %

-00-

NSC-TIS-TIS 17025 Calibration Q426

Calibration certificate No. 26BC0064

Object: Electronic non-automatic weighing instrument

Manufacturer: Sartorius

Type: MCE245-2500-U

Serial / QM Ident. no.: 38101399 / RYG_EN0163

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)

616/10 Moo 5 T Maenamkiao, A Phrak Daeng, Rayong 21140, Thailand

Order no.: 278579

Number of pages: 4

Date of calibration: 03 Feb 2026

Approval of the Calibration Certificate: Mr. Chonchai Inthana

Person in charge: Chonchai Inthana

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 1 / 4

Calibration certificate No. 26BC0064

Calibration object: Single range instrument

Model: MCE245-2500-U

Serial Number: 38101399

QM Ident. no. / Inventory no.: RYG_EN0163 / —

Maximum capacity (Max. load): 220.0000 g

Measured up to: 220.0000 g

Scale interval: 0.0001 g

Place of calibration: Address: According to page 1

Department / Cool center: Laboratory Department / —

Building / Floor: — / 1st Floor

Room: Balance Room

Maximum temperature variation at place of calibration: 5 K

Calibration procedure: EURAMET Calibration Guide No. 18, Version 4.0 (11/2015) - Guidelines on the Calibration of Non-Automatic Weighing Instruments

Test equipment: Test equipment type: Test equipment ID: Valid until:

Thermometer: Testa 1401111200/43 (Traceable to SI unit through LNI L1C1)

Test weight set OIML R111 F7: Certificate No. M05081495_F7 (Traceable to SI unit through TC5)

18 Nov 2025 19 Aug 2027

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 2 / 4

Calibration certificate No. 26BC0064

Adjustment Status: The measuring device was internally adjusted before the calibration.

Environmental and measuring conditions: Date of calibration: 03 Feb 2026

Temperature at place of calibration / Temp. diff: 25 °C / 0.5 K

Taughten / Tense: The installation site is suitable. The device is level. Balance was loaded up to Max before test.

Measuring conditions: The installation site is suitable. The device is level. Balance was loaded up to Max before test.

Comments: humidity 45.0 % RH

Measurement results | Measurement uncertainties

Repeatability: Test load (nominal): 10 g / 200 g

Test load (nominal): 10 g 200 g

1 10.0000 g 200.0000 g

2 10.0000 g 200.0000 g

3 10.0000 g 200.0000 g

4 10.0000 g 200.0000 g

5 10.0000 g 200.0000 g

6 10.0000 g 200.0000 g

7 10.0000 g 200.0000 g

8 10.0000 g 200.0000 g

9 10.0000 g 200.0000 g

10 10.0000 g 200.0000 g

u = 0.00004 g u = 0.00007 g

Error of indication: Testload Indication Error Expansion factor Uncertainty Uncertainty relative

0.0100 g 0.0100 g 0.0000 g 1.00 0.00017 g 1.7 %

0.1000 g 0.1000 g 0.0000 g 1.00 0.00017 g 0.17 %

0.5000 g 0.5000 g 0.0000 g 1.00 0.00017 g 0.034 %

1.0000 g 1.0000 g 0.0000 g 1.00 0.00017 g 0.017 %

5.0000 g 5.0000 g 0.0000 g 1.00 0.00017 g 0.0034 %

10.0000 g 10.0000 g 0.0000 g 1.00 0.00017 g 0.0017 %

20.0000 g 20.0000 g 0.0000 g 1.00 0.00017 g 0.00085 %

50.0000 g 50.0000 g 0.0000 g 1.00 0.00017 g 0.00034 %

100.0000 g 100.0000 g 0.0000 g 1.00 0.00017 g 0.00017 %

200.0000 g 200.0000 g 0.0000 g 1.00 0.00017 g 0.000085 %

Maximum error of indication: E_max = 0.0001 g

u = 0.00004 g u = 0.00007 g

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 3 / 4

Interpretation of measurement results | Appendix to the calibration certificate

Uncertainty of measurement in use

Device adjusted before measurement: Yes

Temperature (evaluation considered): 1.5 K (ISO CAL active)

Temperature coefficient considered: 1 · 10⁻⁴ K

Uncertainty of the weighing result U₉₅(W): U₉₅(W) = 0.00017 g + 4.25 · 10⁻⁴ · R

Reference note: The current uncertainty of measurement is calculated by entering the reading value into this formula. In relation to this, there is no need for a separate U₉₅ reference note. The expanded uncertainty (coverage factor k = 2) is given in the table below. The expanded uncertainty is given in the table below. The expanded uncertainty is given in the table below.

Indication in % from mass load

Net indication: 2.2000 g

Uncertainty: 0.00017 g

Uncertainty relative: 0.0077 %

1 % 2.2000 g 0.00017 g 0.0077 %

25 % 55.0000 g 0.00040 g 0.00073 %

50 % 110.0000 g 0.00080 g 0.00073 %

75 % 165.0000 g 0.00080 g 0.00048 %

100 % 220.0000 g 0.0011 g 0.00050 %

Graphic realization of the relative uncertainty of measurement | process accuracy

Displayed example: Process accuracy: 1.00 %

Safety factor: 3

Minimum sample weight: 0.0207 g

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 4 / 4

Metrology Center SCI ECO Services Company Limited

51 Moo 8, Tukwang, Kaeng Khoi, Saraburi, Thailand 18260

Bangkok, Tel: +66 9055 6851, +66 91928 0059

Saraburi, Tel: +66 8247 2380

Website: www.sceco.co.th E-Mail: calibrate@sceco.co.th

Certificate No. T251538

Page 1 of 3

Equipment: Chamber (Oven)

Manufacturer: MEMMERT

Model: UF 110

Serial No.: B416.2428

Customer Code: RYG_EN0012

ID No.: T6444AS

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)

616/10 Moo 5 T Maenamkiao, A Phrak Daeng, Rayong 21140

Customer Location: ENVIRONMENT LABORATORY

Date of Receipt: 3 September 2025

Calibrated By: Sujjar Naknakred (Site Calibration Manager)

Approved By: Bunchai Suriyawong (Site Calibration Manager)

Date of Issue: 17 SEP 2025

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-TL07 0227-03-48

Metrology Center SCI ECO Services Company Limited

51 Moo 8, Tukwang, Kaeng Khoi, Saraburi, Thailand 18260

Certificate No. T251538

Page 2 of 3

Calibration Report

Equipment: Chamber (Oven)

Date of Calibration: 10 September 2025

Environment: Temperature: 35.7-36.6 °C

Line Voltage: 226.8-233.7 V

Relative Humidity: 55-65 %RH

Condition of this results of calibration:

1. This equipment was calibrated by using nine resistance thermometer detectors into its chamber, the other use resistance thermometer detectors use for ambient temperature measurement. The calibration was done in accordance with WT-720 (based on ASTM E145-94 (Reapproved 2019) and ASZ855-1988).

All data shown below were final values and the initial data from customer request. The temperature scale used was based on ITS-90.

2. Reference Standard Instrument:

Instrument Model Instrument No. Certificate No. Due Date

RTD 100 abm J0-C111-10 T24203 9 November 2025

DATA LOGGER 3497DA T47 T24203 9 November 2025

3. This certificate is traceable to: National Institute of Metrology (Thailand) through Metrological Center (NSC-TIS-TIS 17025 CALIBRATION 024).

4. Condition of calibrated item: good

Equipment Description:

Time Constant: 5 Hour 25 Minute AU 104 °C

Fresh Air Damper: Open X Min Medium X Max

Close X Not Available

5. Adjustment: () without adjustment (X) after adjustment

Approved By: Bunchai Suriyawong

FM-TL07 0227-03-48

Metrology Center SCI ECO Services Company Limited

51 Moo 8, Tukwang, Kaeng Khoi, Saraburi, Thailand 18260

Certificate No. T251538

Page 3 of 3

Calibration Report

Diagram: Chamber Edge

Remark: Internal Dimensions of Chamber: W (width) = 56 cm, H (height) = 48 cm, and D (depth) = 48 cm

Size of installed Standard sensor number 30-CH1: W/2 = 28 cm, H/2 = 24 cm, and D/2 = 24 cm

Size of installed Standard sensor number 30-CH2: W/2 = 28 cm, H/2 = 24 cm, and D/2 = 24 cm

Measurement Results:

Average Standard Reading at each position (°C)

Calibration Point 30-CH1 30-CH2 30-CH3 30-CH4 30-CH5 30-CH6 30-CH7 30-CH8 30-CH9

104 104.02 103.70 104.01 104.12 104.08 104.02 104.22 102.62

120 120.67 119.78 120.08 119.95 119.76 120.77 120.96 120.04 119.48

Chamber (Oven) Temperature Distribution

Setting °C Min. Max. Average

104.0 103.3 104.1 104.0

120.0 119.7 120.0 120.0

Average (°C) 104.00 119.95 120.77 120.96

Stability (°C) 0.08 0.05 0.42 0.01

Uniformity (°C) 0.08 0.05 0.42 0.01

Uncertainty (k=2) 0.02 0.01 0.02 0.01

Factor k 2.00

Approved By: Bunchai Suriyawong

FM-TL07 0227-03-48

NSC-TIS-TIS 17025 Calibration Q426

Calibration certificate No. 26BC0066

Object: Electronic non-automatic weighing instrument

Manufacturer: Sartorius

Type: MSL0245-100-DU

Serial / QM Ident. no.: 31/09502 / MYG_LN0003

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)

616/10 Moo 5 T Maenamkiao, A Phrak Daeng, Rayong 21140, Thailand

Order no.: 278579

Number of pages: 4

Date of calibration: 03 Feb 2026

Approval of the Calibration Certificate: Mr. Chonchai Inthana

Person in charge: Chonchai Inthana

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 1 / 4

Calibration certificate No. 26BC0066

Calibration object: Single range instrument

Model: MSL0245-100-DU

Serial Number: 31/09502

QM Ident. no. / Inventory no.: RYG_EN0003 / —

Maximum capacity (Max. load): 220.0000 g

Measured up to: 220.0000 g

Scale interval: 0.0001 g

Place of calibration: Address: According to page 1

Department / Cool center: Laboratory Department / —

Building / Floor: — / 1st Floor

Room: Balance Room

Maximum temperature variation at place of calibration: 5 K

Calibration procedure: EURAMET Calibration Guide No. 18, Version 4.0 (11/2015) - Guidelines on the Calibration of Non-Automatic Weighing Instruments

Test equipment: Test equipment type: Test equipment ID: Valid until:

Thermometer: Testa 174H H75703/43 (Traceable to SI unit through F17FCH)

Test weight set OIML R111 L2: Certificate No. M02081495_L2 (Traceable to SI unit through TC5)

18 Nov 2026 19 Aug 2027

This calibration certificate may not be reproduced other than in full except with the permission of NSC-TIS-TIS 17025 and the issuing laboratory. Calibration certificates without signatures are not valid.

The user is obliged to have the object recalibrated at appropriate intervals.

Date of issue: 03 Feb 2026

Approval of the Calibration Certificate: Mr. Chonchai Inthana

Person in charge: Chonchai Inthana

Sartorius (Thailand) Co., Ltd. 129 Rama 9 Road, Huaykiew 10310 Bangkok

Version 6.7 Page 2 / 4

Calibration Certificate No. T252109
Adjustment Status
Environmental and measuring conditions
Measurement results | Measurement uncertainties

Interpretation of measurement results | Appendix to the calibration certificate
Uncertainty of measurement in use
Graphic realization of the relative uncertainty of measurement | process accuracy

Metrology Center
SCI ECO Services Company Limited
Certificate of Calibration
Equipment : Liquid Bath (Water)
Manufacturer : Memmert
Model : WNE29
Serial No. : L623.0105
Customer Code : RYG_EN0220
ID No. : TS650A5
Customer : ALS Laboratory Group (Thailand) Co.,Ltd. (Rayong Branch)
Customer Location : Wet Chemistry Lab
Date of Receipt : 19 November 2025
Calibrated By : Sujjar Nakanakred (Site Calibration Manager)
Approved By : Dr. Loo / Boonchai Sarriyawong (Site Calibration Manager)
Date of Issue : 01 DEC 2025

Metrology Center
SCI ECO Services Company Limited
Calibration Report
Equipment : Liquid Bath (Water)
Date of Calibration : 27 November 2025
Environment : Temperature : 25.5-25.7 °C
Line Voltage : 221.8-225.5 V
Relative Humidity : 55 - 65 %RH
Condition of this results of calibration :
1. This equipment was calibrated by insert five resistance thermocouple detectors into its water bath, the other one thermocouple type T use for ambient temperature measurement. The calibration was done in accordance to WI-126 (based on ASTM E175-90 (Reapproved 2022)).
2. Reference Standard Instrument :
3. This certificate is traceable to : National Institute of Metrology (Thailand) through Metrology Center (NSC-TIS1-TIS 17025 CALIBRATION ID44).
4. Condition of calibrated item : good
5. Adjustment : (X) without adjustment () after adjustment

Metrology Center
SCI ECO Services Company Limited
Calibration Report
Side View
Top View
Measurement Results:
Liquid Bath (Water)
Temperature Distribution
Approved By: [Signature]

Metrology Center
SCI ECO Services Company Limited
Certificate of Calibration
Equipment : Chamber (Cold Room)
Manufacturer : MODULAR
Model : IREVOCHCOO
Serial No. : C00351459
Customer Code : RYG_EN0184
ID No. : TI939A5
Customer : ALS Laboratory Group (Thailand) Co.,Ltd. (Rayong Branch)
Customer Location : ENVIRONMENT LABORATORY
Date of Receipt : 19 November 2025
Calibrated By : Sujjar Nakanakred (Site Calibration Manager)
Approved By : Dr. Loo / Boonchai Sarriyawong (Site Calibration Manager)
Date of Issue : 01 DEC 2025

Metrology Center
SCI ECO Services Company Limited
Calibration Report
Equipment : Chamber (Cold Room)
Date of Calibration : 27 November 2025
Environment : Temperature : 24.7-25.6 °C
Line Voltage : 222.3-226.3 V
Relative Humidity : 55 - 65 %RH
Condition of this results of calibration :
1. This equipment was calibrated by insert five standard thermocouples type T into its chamber, the other one standard thermocouple type T use for ambient temperature measurement. The calibration was done in accordance to WI-126 (based on ASTM E145-94 (Reapproved 2019) and AS2553-1996).
2. Reference Standard Instrument :
3. This certificate is traceable to : National Institute of Metrology (Thailand) through Metrology Center (NSC-TIS1-TIS 17025 CALIBRATION ID44).
4. Condition of calibrated item : good
5. Adjustment : (X) without adjustment () after adjustment

Metrology Center
SCI ECO Services Company Limited
Calibration Report
Measurement Results:
Chamber (Cold Room)
Temperature Distribution
Approved By: [Signature]

Metrology Center
SCI ECO Services Company Limited
Calibration Report
Measurement Results:
Chamber (Cold Room)
Temperature Distribution
Approved By: [Signature]

The uncertainties are for a confidence probability of approximately 95%.

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Agilent CrossLab Compliance Services

Source: EI - Extractor

Fluent: 1

Belgium Status: Pass

Signal to Noise: 32794083905

Agilent Recommended: >= 1200

Source: EI - Extractor

Fluent: 2

Belgium Status: Pass

Signal to Noise: 3284969229

Agilent Recommended: >= 1200

Overall Signal to Noise EI Test Status

Pass

NOTE: This test's 2 comment(s) and 3 deviation(s) are available in the Attachments section.

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Agilent CrossLab Compliance Services

Instrument Details

This section describes the ac board system configuration.

Details

System

System ID: BMS_EI00000004-7

Manufacturer: Agilent Technologies

Name: 7860

Tekel Combination 1

Injection Technique: Manual Injection

Valve: Front

Detector: External

LTM Included?: No

Sample 1

Manufacturer: Agilent Technologies

Type: Manual Injection

Usage: Sample Injection

Syringe Volume (uL): 10

Mainframe 1

Manufacturer: Agilent Technologies

Name: 7860

Model Number: 024426

Serial Number: C914102181

Firmware Revision: B.00.00

Chen Type: Standard

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Agilent CrossLab Compliance Services

Unit 1

Manufacturer: Agilent Technologies

Name: 7860

Type: SGL

Location: Front

Carrier Gas: Helium

Control Type: Electronic Pressure Control (EPC)

Purge Inlet: Yes

Detector 1

Manufacturer: Agilent Technologies

Name: Mass Spectrometer

Type: Mass Spectrometer

Location: External

Mass Spectrometer 1

Manufacturer: Agilent Technologies

Type: SQ

Name: 5877A

Serial Number: U5141594209

Firmware Revision: 5877.6.00.21

Vacuum System: Turbo Pump

Scanning Rate Standard: QFN Std

MS EI Source 1

Manufacturer: Agilent Technologies

Source Type: EI - Extractor

Number of Elements: 2

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Agilent CrossLab Compliance Services

Electronic Signature

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Logged On User Name: supreet.narsinghram@agilent.com

Signature Creation Date: June 25, 2025

Reason for Signature: Executed protocol and published this original version of document

ACE Audit Qualification Status

The incident version of ACE used to deliver this service passed qualification, the results conform with expected values. The full qualification summary report is available in this section folder location: SDS\CleanScan\AceQualification.

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Agilent CrossLab Compliance Services

Unit 1

Manufacturer: Agilent Technologies

Name: 7860

Type: SGL

Location: Front

Carrier Gas: Helium

Control Type: Electronic Pressure Control (EPC)

Purge Inlet: Yes

Detector 1

Manufacturer: Agilent Technologies

Name: Mass Spectrometer

Type: Mass Spectrometer

Location: External

Mass Spectrometer 1

Manufacturer: Agilent Technologies

Type: SQ

Name: 5877A

Serial Number: U5141594209

Firmware Revision: 5877.6.00.21

Vacuum System: Turbo Pump

Scanning Rate Standard: QFN Std

MS EI Source 1

Manufacturer: Agilent Technologies

Source Type: EI - Extractor

Number of Elements: 2

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Agilent CrossLab Compliance Services

Unit 1

Manufacturer: Agilent Technologies

Name: 7860

Type: SGL

Location: Front

Carrier Gas: Helium

Control Type: Electronic Pressure Control (EPC)

Purge Inlet: Yes

Detector 1

Manufacturer: Agilent Technologies

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Type: SGL

Location: Front

Carrier Gas: Helium

Control Type: Electronic Pressure Control (EPC)

Purge Inlet: Yes

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Mass Spectrometer 1

Manufacturer: Agilent Technologies

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Name: 5877A

Serial Number: U5141594209

Firmware Revision: 5877.6.00.21

Vacuum System: Turbo Pump

Scanning Rate Standard: QFN Std

MS EI Source 1

Manufacturer: Agilent Technologies

Source Type: EI - Extractor

Number of Elements: 2

[illegible]

Page 15 / 8

MTCO : L0617/2625		Report No. : ALS-418	
Maintenance Sheet			
Customer : ALS Laboratory		Date : 27 / 06 / 2025	
Model : TOC/CSH		Serial No. : HS4425300416	
Item	Carry out maintenance work	Result	Exchange
1.	Check functionality of the device	O.K.	
2.	Check furnace temperature (Standard cat. 680 °C for 7N cat. 720 °C)	O.K.	
3.	Check desulfurizer temperature (± 1 °C)	O.K.	
4.	Check the entire low flow related to leakage	O.K.	
5.	Check baseline status (0A)	O.K.	
6.	Check carrier gas pressure (200 ± 10 kPa)	O.K.	
7.	Check carrier gas flow rate (150 mL/min)	O.K.	
8.	Tube	O.K.	
9.	Check all tubing for contamination, if necessary clean them	O.K.	
10.	Check all tubing for tight connection	O.K.	
11.	Controlator and Drainage	O.K.	
12.	Fill up humidifier with pure water to max. level	O.K.	
13.	Check filling of dilution water and acid container	O.K.	
14.	Rinse Drain Pot, after works refill again with pure water	O.K.	
15.	Check if output now in proper conditions	O.K.	
16.	Y6 and IC Injection	O.K.	
17.	Clean Injector Block	O.K.	
18.	Check injector Block for wear	O.K.	
19.	Check injection tube adjustment	O.K.	
20.	Check injection for leakage	O.K.	
21.	Check injection for clogging	O.K.	
22.	IC Measurement (N-type)	O.K.	
23.	Check acidification in syringe	O.K.	
24.	Check sparging in syringe	O.K.	
25.	Eye check of B-Port valve, for sample residues or metal spots that indicate possible leakage	O.K.	
26.	Check and if necessary exchange consumable, Maintenance parts	O.K.	See list of consumables

TOC-Control L Report

2020-06-21 PM 1:00

Instrumentation

Instrument: Oyster

Catalyst:

TOC-MER/1

Reggie: Sensitivity

GL Data

Sample Name:

Sample ID:

Cat. Curve:

Status:

Untest

Untest

0.1

Completed

20-ppt,0021,38,27,13,21,34,nd

Peak	Area	Height	Width
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.000	0.000	0.000
7	0.000	0.000	0.000
8	0.000	0.000	0.000
9	0.000	0.000	0.000
10	0.000	0.000	0.000
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
14	0.000	0.000	0.000
15	0.000	0.000	0.000
16	0.000	0.000	0.000
17	0.000	0.000	0.000
18	0.000	0.000	0.000
19	0.000	0.000	0.000
20	0.000	0.000	0.000
21	0.000	0.000	0.000
22	0.000	0.000	0.000
23	0.000	0.000	0.000
24	0.000	0.000	0.000
25	0.000	0.000	0.000
26	0.000	0.000	0.000
27	0.000	0.000	0.000
28	0.000	0.000	0.000
29	0.000	0.000	0.000
30	0.000	0.000	0.000
31	0.000	0.000	0.000
32	0.000	0.000	0.000
33	0.000	0.000	0.000
34	0.000	0.000	0.000
35	0.000	0.000	0.000
36	0.000	0.000	0.000
37	0.000	0.000	0.000
38	0.000	0.000	0.000
39	0.000	0.000	0.000
40	0.000	0.000	0.000
41	0.000	0.000	0.000
42	0.000	0.000	0.000
43	0.000	0.000	0.000
44	0.000	0.000	0.000
45	0.000	0.000	0.000
46	0.000	0.000	0.000
47	0.000	0.000	0.000
48	0.000	0.000	0.000

Conc: 0.000mg/L

Peak	Area	Height	Width	Area%	Height%	Width%
1	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000
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14	0.000	0.000	0.000	0.000	0.000	0.000
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40	0.000	0.000	0.000	0.000	0.000	0.000
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42	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000

Area: 0.000

Height: 0.000

Width: 0.000

Area: 0.000

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Height: 0.000

Width: 0.000

Area: 0.000

Height: 0.000

Width: 0.000

Area: 0.000

Height: 0.000

Width: 0.000

Signal: V1

Conc: 0.1000mg/L

Peak	Area	Height	Width	Area%	Height%	Width%
1	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000
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21	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000
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39	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000

Area: 0.000

Height: 0.000

Width: 0.000

Area: 0.000

Height: 0.000

Width: 0.000

Area: 0.000

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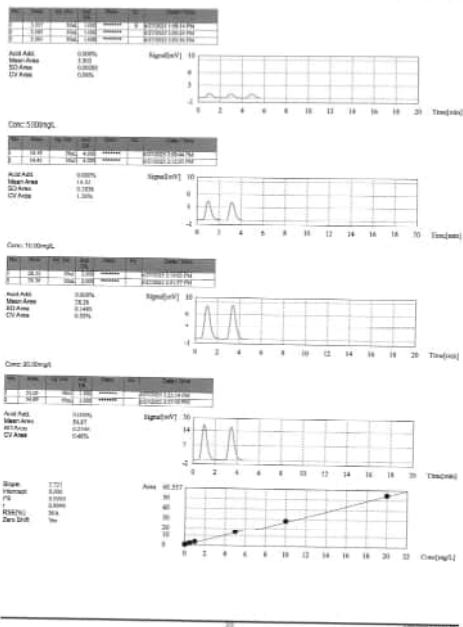
Signal: V1

Conc: 0.000mg/L

Peak	Area	Height	Width	Area%	Height%	Width%
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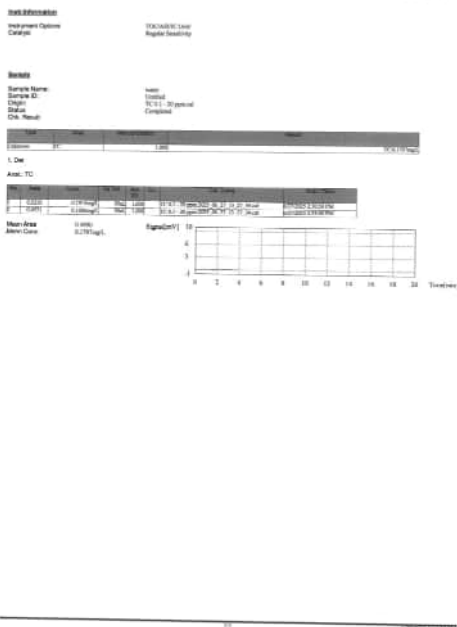
TOC-Control L Report

002, 06, 27, 01, 000



TOC-Control L Report

002, 06, 27, 01, 000



TOC-Control L Report

002, 06, 27, 01, 000



Automation Service Co.,Ltd.
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Tel: 02-019-8884
www.automation.co.th

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Branch: 1115 Hongsong Rd., Muang, Rong 21100 (T. 028-480-102)
Lamphun: 122/5 M.A. Ban Klang, Muang, Lamphun 51000 (T. 053-581-678)
Prachinburi: 108 M.10, Thuan, Srirachaphi, Prachinburi 31040 (T. 027-208-082)

MTOC: L-0618/2025

Report No.: ALS-799

ASI Maintenance Report

Instrument : Automatic Sample Injector
Model : ASI-L
Serial No. : H57415200799
Manufacture : Shimadzu

Measuring : Vial 40 mL
Place of Installation :
Department : LABORATORY

Customer : ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanasarak 40, Phatthanasarak Rd.,
Nongseem Suan Luang, Khet Suan Luang,
Bangkok 10250 Thailand

Date of Maintenance : 27 / 06 / 2025

Ambient Condition : Temperature 25.5 ± 5 °C
Humidifier 58 ± 15 %RH

Maintenance By : Teeaporn Kamlungkarn
(Mr. Teeaporn Kamlungkarn)
Technician

Approved By : [Signature]
(Mr. Nipon Phangsomak)
Technician Manager

User Name : [Signature]
Type: Mr. Sanku Pannak

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Prachinburi: 108 M.10, Thuan, Srirachaphi, Prachinburi 31040 (T. 027-208-082)

MTOC: L-0618/2025

Report No.: ALS-799

Maintenance Sheet

Customer : ALS Laboratory		Date : 27 / 06 / 2025	
Model : ASI-L		Serial No. : H57415200799	
Item	Carry out maintenance work	Result	Exchange
1.	Arm Drive section Check Arm Drive Belt for wear and tension Check grease of Screw Arm Drive Rinse pump (only ASI-V 24mL, 40mL) Check pump rate (>40mL/min) Check pump and tube connection for leakage Check if outlet flow is in proper condition	O.K. O.K. O.K. O.K. O.K. O.K.	
2.	Check and if necessary exchange consumable, Maintenance parts	O.K.	
3.	Check Stirrer (When installed)	O.K.	
4.	Verify ASI function via mechanical check	O.K.	

Inspection by : Teeaporn Kamlungkarn
(Mr. Teeaporn Kamlungkarn)
Technician

SHIMADZU ANALYZER
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Prachinburi: 108 M.10, Thuan, Srirachaphi, Prachinburi 31040 (T. 027-208-082)

MTOC: L-0618/2025

Report No.: ALS-799

List of Consumable, Maintenance parts

Pos.	Part Number	Part Name	Result	Exchange	Recommended Interval
1.	017-27021-01	Grease Paste, Lubricant	O.K.	✓	1 time per year
2.	032-22661-02	Belt, 6052m596, Arm Drive	O.K.		1 time per year
3.	034-03067-02	Spring, F-643, Arm Drive	O.K.		Depending on condition
4.	042-00405-11	Pump Head, for ASI Rinse Pump	O.K.		After 300 h of operating
5.	638-41448-01	Std. Needle Type1 24mL, 40mL* (for tube 2, 1x1, 6) Spurge needle)	N/A		Depending on condition
6.	638-41448-02	Std. Needle Type1 125mL* (for tube 2, 1x1, 6)	N/A		Depending on condition
7.	631-41600-03	Flare Pipe 2x1.5x700mm* (for Standard Needle Type1 24mL, 40mL, 125mL)	N/A		Depending on condition (may cut to origin length 600mm)
8.	638-41450-01	Needle for Suspended Particles* 0.8mm (only ASI-V 24mL, 40mL)	N/A		Depending on condition
9.	638-41450-01	Std. Needle Type2 125mL* (for tube 2, 1x1, 6)	N/A		Depending on condition
10.	638-41472-01	Std. Needle Type2 24mL, 40mL* (for tube 1.4x0.9)	O.K.		Depending on condition
11.	631-41660-02	Flare Pipe 1.4x0.9x600mm* (for Suspended + Needle Type2)	O.K.		Depending on condition
12.	638-41449-01	Double Needle , only 24mL, 40mL (simultaneous spurge type)*	N/A		Depending on condition
13.	631-41660-01	Flare Pipe 1.5x0.6x600mm* (for Double Needle 24mL, 40mL)	N/A		Depending on condition

*Note: needed parts depending on installed needle types!

Inspection by : Teeaporn Kamlungkarn
(Mr. Teeaporn Kamlungkarn)
Technician

SHIMADZU ANALYZER
3/3

ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียน

ห้องปฏิบัติการวิเคราะห์

ที่อก ๐๓๑๐(๑)/ ๑๖๑๖๘



กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพมหานคร ๑๐๑๐๐

๒๐ พฤศจิกายน ๒๕๖๒

เรื่อง ค่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอนด์เอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารเคมีของห้องปฏิบัติการวิเคราะห์เอกชน ลงวันที่ ๕ สิงหาคม ๒๕๖๐

- สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผน
๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผน
๓. ขอบข่ายสารเคมีที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๒ แผน

ตามหนังสือที่อ้างถึง บริษัท เอแอนด์เอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔ สถานที่ยื่นเรื่องที่ ๑๐๔ ขอพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้งาน เอแอนด์เอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยไม่ออกใบประกาศนียบัตร

- ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ ๑๘๓ ราย ตามสิ่งที่ส่งมาด้วย ๒
ค. ขอบข่ายสารเคมีที่ได้รับขึ้นทะเบียนในห้องปฏิบัติการวิเคราะห์ในน้ำเสีย น้ำดื่ม น้ำจากทะเล สิ่งปฏิกูล หรือวัสดุที่ไม่เป็นอันตราย ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๔ หากประสงค์จะต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อกรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันหมดอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ทั้งนี้ สามารถยื่นคำขอผ่านระบบอิเล็กทรอนิกส์ได้ที่หน้าเว็บไซต์กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายพิษะ จันทร์นิตย์)

อธิบดีกรมโรงงานอุตสาหกรรม
ผู้รักษาราชการอธิบดีกรมโรงงานอุตสาหกรรม
ผู้รักษาราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบและประเมินห้องปฏิบัติการ

โทร. ๐ ๒๕๓๐ ๖๓๖๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๕๓๐ ๖๓๖๒ ต่อ ๒๑๐๓

ไปรษณีย์อิเล็กทรอนิกส์ sarabha@diw.mail.go.th



"อุตสาหกรรมก้าวไกล ประสิทธิภาพก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว"



เอกสารแนบท้ายหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอนด์เอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ๖-๒๐๔

ที่อก ๐๓๑๐(๑)/ ๑๖๑๖๘

ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๒

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

- ๑) นางสาวจุฬารัตน์ จันทร์นิตย์
- ๒) นางสาวจิราพร โขมากรฤณ ณ นคร
- ๓) นางสาวสุพจน์ จีรารัตน์
- ๔) นางสาวกนกกร เอนก
- ๕) นายสุวิทย์ สอนแก้ว
- ๖) นายวิชาญ ชุมพรี

- ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๑
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๒
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ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๔
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๕
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๖

สิ่งที่ส่งมาด้วย ๒

เอกสารแนบท้ายหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอนด์เอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ๖-๒๐๔

ที่อก ๐๓๑๐(๑)/ ๑๖๑๖๘

ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๒

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๘๓ ราย

- ๑) นายภาณุวัฒน์ คิทธิสุวณีย์
- ๒) นายภัทรพล สว่างเจริญ
- ๓) นายธนวิทย์ เทือกคำ
- ๔) นายศิริโชค พงษ์ประสม
- ๕) นายณัฐพงศ์ คำแพง
- ๖) นางสาวจินดา จิตสุธรรม
- ๗) นางสาววิภาดา น้อยเจริญ
- ๘) นางสาวจตุรวิภา จันทะ
- ๙) นางสาววันพร สายเส
- ๑๐) นางสาวนันทา งามบุญ
- ๑๑) นางสาวศรัณยา เสนิธธรรม
- ๑๒) นางสาวจิณณพร มงคลจิราวุธ
- ๑๓) นางสาวสิริลักษณ์ บุญนาค
- ๑๔) นายบวรพงศ์ จันทะ
- ๑๕) นายบวรเศรษฐ์ โขมากร
- ๑๖) นายณิภา จิรา
- ๑๗) นางสาวนันทพร แก้วมณี
- ๑๘) นางสาวสุวิมล ชัยเรืองวุฒิ
- ๑๙) นางสาวสุชาดา อรรถนถ
- ๒๐) นางสาวณิภา ชัยเศรษฐ
- ๒๑) นางสาวศศิธร พงษ์สิทธิ์
- ๒๒) นางสาวสวลีภรณ์ งามคำ
- ๒๓) นายอภิสิทธิ์ สิงหา
- ๒๔) นายศักดิ์สิทธิ์ โสภณพิศุข
- ๒๕) ว่าที่ร้อยตรีหญิง พงษ์นภา จันทะ
- ๒๖) นายจิราพร คำคุณ
- ๒๗) นางสาววรรณพร รุ่งเรือง
- ๒๘) นางสาวนันทพร แก้วมณี
- ๒๙) นายจุลเดช วรจันทร์
- ๓๐) นางสาวสุวิมล รุ่งเรือง
- ๓๑) นายพนม ศรีปิ่นนาค
- ๓๒) นายสุวิมล งาม
- ๓๓) ว่าที่ร้อยตรี เสนิธธรรม อรรถนถ
- ๓๔) นางสาววิภาดา อรรถนถ
- ๓๕) นายอนุพงศ์ รักษะประเสริฐ

- ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๐๑
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๓๖) นางสาวจุฬารัตน์...

- ๒ -

- ๓๖) นางสาวจุฬารัตน์ โอนต้นเพียง
- ๓๗) นางสาวจรรยาพร พินทอภิตา
- ๓๘) นางสาวปรารถนา พิทักษ์
- ๓๙) นางสาวเดือนใจ พงษ์กลาง
- ๔๐) นางสาวจิราพร ศิริเวช
- ๔๑) นายวรกร ลูกวัชร
- ๔๒) นายพชร วิริยะสหกิจ
- ๔๓) นายณิศร เจริญ
- ๔๔) นายณิศร คำเพชร
- ๔๕) นายภูษิต พงษ์ประสม
- ๔๖) นายเดช ภาณุพัฒน์
- ๔๗) นายชุตินันท์ วงษ์จันทร์
- ๔๘) นายอาทิตย์ ศรีเสน
- ๔๙) นายเจตนาถ คงศักดิ์
- ๕๐) นายจรัส บุญยั้ง
- ๕๑) นายณิชาธิ์ โสภ
- ๕๒) นายอภิวัฒน์ พงษ์
- ๕๓) นางสาวสุภาวดี งาม
- ๕๔) นางสาวศศิธร พงษ์
- ๕๕) นางสาวณิภา พงษ์
- ๕๖) นางสาวภาณุมาศ นามวัฒน์
- ๕๗) นางสาวอุไรรัตน์ พงษ์
- ๕๘) นายธีรวัฒน์ พงษ์
- ๕๙) นายอภิสิทธิ์ ยะโส
- ๖๐) นายประจักษ์ วรณัฐ
- ๖๑) นายชุตินันท์ พงษ์
- ๖๒) นางสาวกนกกร ณ นคร
- ๖๓) นายสิทธิโชค ธงเงิน
- ๖๔) นางสาววรรณ งาม
- ๖๕) นางสาวพวงมณี งาม
- ๖๖) นายณิชากร ศรีวิเศษ
- ๖๗) นายสุวิทย์ พงษ์
- ๖๘) นายสุวิมล พงษ์
- ๖๙) นายวิวัฒน์ โสภ
- ๗๐) นายณิชากร พินทอ
- ๗๑) นายจรัส ขวณัฐ
- ๗๒) นายธีร นาม
- ๗๓) นายอัครา จอ

- ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๒๖
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ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๕๕
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๕๖
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๕๗
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๕๘
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๕๙
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๐
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๑
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๒
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๓
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๔
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๕
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๖
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๗
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๘
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๖๙
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๐
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๑
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๒
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๓
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๔
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๕
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๖
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๗
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๘
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๗๙
ทะเบียนเลขที่ ๖-๒๐๔-๖-๐๐๘๐

๗๕) นายประเสริฐ...

๗๕) นายประเสริฐ สุระขันธุ์
๗๖) นายบุญล จันทน์นิยม
๗๗) นายพิรพจน์ ทองอุไรรักษา
๗๘) นายณัฐพล ทองบุษ
๗๙) นายอนุวัฒน์ ม่วงแพร่
๘๐) นายเจตคุกรักษ์ ปิตตะมะ
๘๑) นายกฤษณะ สายวรรณ
๘๒) นายพิชัย บุญยศ
๘๓) นายภาณุพงศ์ โอวรงค์
๘๔) นายสามารถ คูณปลี
๘๕) นายสัญญา โกศิกราม
๘๖) นายณัฐวุฒิ ศรีประเสริฐ
๘๗) นายชวลิต นาคพรม
๘๘) นายพชร ชัยทรัพย์
๘๙) นายสิทธิโชค หาสีดา
๙๐) นายธนากร อินสุตา
๙๑) นางสาววรมันชา ขาดีวันชัย
๙๒) นางสาวพิมพ์ตะวัน มีนากุล
๙๓) นางสาวเพ็ญรัตน์ สิงห์สมบูรณ์
๙๔) นางสาวสุภาณิพร พรหมจันทร์
๙๕) นายกรรติ หวีราช
๙๖) นายจักริน หมั่นวิชา
๙๗) นายฉัตรชัย สุขชัย
๙๘) นายณรณห์ คีร์ทองคำ
๙๙) นายศุภพล สมนอก
๑๐๐) นายศักดิ์ชัย อุบลศรี
๑๐๑) นายธนพร นามะกุลธนา
๑๐๒) นายสิทธิศักดิ์ บำรุง
๑๐๓) นายณนทชัย รูปโหม
๑๐๔) นายณัฐพล คุณสุทธิ
๑๐๕) นายณัฏฐ์ สารี
๑๐๖) นายปิยะนุช พลมะศรี
๑๐๗) นายพงศ์สิริ โสณชัย
๑๐๘) นายพิรพัฒน์ คำคำ
๑๐๙) นายภาณุพงศ์ มานิตย์
๑๑๐) นายมงคล ผลาทรัพย์
๑๑๑) นายสิริวัน พงษ์อิน
๑๑๒) นายธนชา พันธมัย
๑๑๓) นายอดิศักดิ์ ฝอย

๗๕) นายณัฐพล ทองบุษ
๗๖) นายบุญล จันทน์นิยม
๗๗) นายพิรพจน์ ทองอุไรรักษา
๗๘) นายณัฐพล ทองบุษ
๗๙) นายอนุวัฒน์ ม่วงแพร่
๘๐) นายเจตคุกรักษ์ ปิตตะมะ
๘๑) นายกฤษณะ สายวรรณ
๘๒) นายพิชัย บุญยศ
๘๓) นายภาณุพงศ์ โอวรงค์
๘๔) นายสามารถ คูณปลี
๘๕) นายสัญญา โกศิกราม
๘๖) นายณัฐวุฒิ ศรีประเสริฐ
๘๗) นายชวลิต นาคพรม
๘๘) นายพชร ชัยทรัพย์
๘๙) นายสิทธิโชค หาสีดา
๙๐) นายธนากร อินสุตา
๙๑) นางสาววรมันชา ขาดีวันชัย
๙๒) นางสาวพิมพ์ตะวัน มีนากุล
๙๓) นางสาวเพ็ญรัตน์ สิงห์สมบูรณ์
๙๔) นางสาวสุภาณิพร พรหมจันทร์
๙๕) นายกรรติ หวีราช
๙๖) นายจักริน หมั่นวิชา
๙๗) นายฉัตรชัย สุขชัย
๙๘) นายณรณห์ คีร์ทองคำ
๙๙) นายศุภพล สมนอก
๑๐๐) นายศักดิ์ชัย อุบลศรี
๑๐๑) นายธนพร นามะกุลธนา
๑๐๒) นายสิทธิศักดิ์ บำรุง
๑๐๓) นายณนทชัย รูปโหม
๑๐๔) นายณัฐพล คุณสุทธิ
๑๐๕) นายณัฏฐ์ สารี
๑๐๖) นายปิยะนุช พลมะศรี
๑๐๗) นายพงศ์สิริ โสณชัย
๑๐๘) นายพิรพัฒน์ คำคำ
๑๐๙) นายภาณุพงศ์ มานิตย์
๑๑๐) นายมงคล ผลาทรัพย์
๑๑๑) นายสิริวัน พงษ์อิน
๑๑๒) นายธนชา พันธมัย
๑๑๓) นายอดิศักดิ์ ฝอย

3/11/25

๑๑๔) นายณัฐชัย...

๑๑๔) นายณัฐชัย วิธม
๑๑๕) นายวรวิทย์ ติ๊ก
๑๑๖) นายแสงตะวัน นตะสิทธิ์
๑๑๗) นายพชรพงศ์ รัตน
๑๑๘) นายณัฐวุฒิ ไชยชนะ
๑๑๙) นายวิศุทธิ์ ศรีธรรมมา
๑๒๐) นายณนทกร เมื่อกอง
๑๒๑) นายคำชัย สุริยะ
๑๒๒) นางสาวณัฐกรณีย์ บุญน้อย
๑๒๓) นางสาวพัชรินทร์ แสงสร้อย
๑๒๔) นายไพรัช นริยพรม
๑๒๕) นางสาวสุภาภรณ์ ทองมาก
๑๒๖) นางสาวลลิตา จิตรสว่าง
๑๒๗) นางสาวไพฑูริ เล็กไชย
๑๒๘) นางสาวกฤติมาพร คำมีแก้ว
๑๒๙) นางสาวสุกฤษณ์ ภาณุภูมิ
๑๓๐) นางสาวไพฑูริ ศรีวิ
๑๓๑) นางสาวทิพนพร ฤทธิ
๑๓๒) นางสาวสาธิตา ปานทอง
๑๓๓) นางสาวอรุณี ทองนวล
๑๓๔) นางสาวอรุณี คำคำ
๑๓๕) นางสาวจุฑาภรณ์ สุนทรสนาน
๑๓๖) นางสาวณัฐชัย คำจันทร์
๑๓๗) นายบุญฤทธิ์ เขื่อนเพชร
๑๓๘) นางสาวสุภาภรณ์ ปันมยุรา
๑๓๙) นางสาวพาศินี คุณนาม
๑๔๐) นางสาวจิราภรณ์ พงศา
๑๔๑) นางสาวอารยา มีชัย
๑๔๒) นางสาววิชุดา นาคผจญ
๑๔๓) นางสาวณิชา จันทร์
๑๔๔) นายศักดิ์พงศ์ แซ่
๑๔๕) นายณัฐวิทย์ ภูว
๑๔๖) นายธีรพล แสงทอง
๑๔๗) นายศักดิ์พัฒน์ บุญ
๑๔๘) นายณัฐวิทย์ เอม
๑๔๙) นายณัฐวิทย์ ศรี
๑๕๐) นางสาวอรรณพ สอน
๑๕๑) นางสาวณัฐพร สิง
๑๕๒) นายณัฐวิทย์ แยม

๗๕) นายณัฐพล ทองบุษ
๗๖) นายบุญล จันทน์นิยม
๗๗) นายพิรพจน์ ทองอุไรรักษา
๗๘) นายณัฐพล ทองบุษ
๗๙) นายอนุวัฒน์ ม่วงแพร่
๘๐) นายเจตคุกรักษ์ ปิตตะมะ
๘๑) นายกฤษณะ สายวรรณ
๘๒) นายพิชัย บุญยศ
๘๓) นายภาณุพงศ์ โอวรงค์
๘๔) นายสามารถ คูณปลี
๘๕) นายสัญญา โกศิกราม
๘๖) นายณัฐวุฒิ ศรีประเสริฐ
๘๗) นายชวลิต นาคพรม
๘๘) นายพชร ชัยทรัพย์
๘๙) นายสิทธิโชค หาสีดา
๙๐) นายธนากร อินสุตา
๙๑) นางสาววรมันชา ขาดีวันชัย
๙๒) นางสาวพิมพ์ตะวัน มีนากุล
๙๓) นางสาวเพ็ญรัตน์ สิงห์สมบูรณ์
๙๔) นางสาวสุภาณิพร พรหมจันทร์
๙๕) นายกรรติ หวีราช
๙๖) นายจักริน หมั่นวิชา
๙๗) นายฉัตรชัย สุขชัย
๙๘) นายณรณห์ คีร์ทองคำ
๙๙) นายศุภพล สมนอก
๑๐๐) นายศักดิ์ชัย อุบลศรี
๑๐๑) นายธนพร นามะกุลธนา
๑๐๒) นายสิทธิศักดิ์ บำรุง
๑๐๓) นายณนทชัย รูปโหม
๑๐๔) นายณัฐพล คุณสุทธิ
๑๐๕) นายณัฏฐ์ สารี
๑๐๖) นายปิยะนุช พลมะศรี
๑๐๗) นายพงศ์สิริ โสณชัย
๑๐๘) นายพิรพัฒน์ คำคำ
๑๐๙) นายภาณุพงศ์ มานิตย์
๑๑๐) นายมงคล ผลาทรัพย์
๑๑๑) นายสิริวัน พงษ์อิน
๑๑๒) นายธนชา พันธมัย
๑๑๓) นายอดิศักดิ์ ฝอย

3/11/25

๑๕๓) นางสาวอุบล...

๑๕๓) นางสาวอุบล เล็กศิริ
๑๕๔) นางสาวณัฐพร ทอง
๑๕๕) นายภาณุภูมิ แพนไทย
๑๕๖) นางสาวสุภาภรณ์ แซ่
๑๕๗) นางสาวพัชรินทร์ แสง
๑๕๘) นายเอกวิทย์ วิธ
๑๕๙) นายณัฐกรณีย์ บุญ
๑๖๐) นายณัฐพล บุญ
๑๖๑) นายณัฐพล บุญ
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๑๙๙) นายณัฐพล บุญ
๒๐๐) นายณัฐพล บุญ

๗๕) นายณัฐพล ทองบุษ
๗๖) นายบุญล จันทน์นิยม
๗๗) นายพิรพจน์ ทองอุไรรักษา
๗๘) นายณัฐพล ทองบุษ
๗๙) นายอนุวัฒน์ ม่วงแพร่
๘๐) นายเจตคุกรักษ์ ปิตตะมะ
๘๑) นายกฤษณะ สายวรรณ
๘๒) นายพิชัย บุญยศ
๘๓) นายภาณุพงศ์ โอวรงค์
๘๔) นายสามารถ คูณปลี
๘๕) นายสัญญา โกศิกราม
๘๖) นายณัฐวุฒิ ศรีประเสริฐ
๘๗) นายชวลิต นาคพรม
๘๘) นายพชร ชัยทรัพย์
๘๙) นายสิทธิโชค หาสีดา
๙๐) นายธนากร อินสุตา
๙๑) นางสาววรมันชา ขาดีวันชัย
๙๒) นางสาวพิมพ์ตะวัน มีนากุล
๙๓) นางสาวเพ็ญรัตน์ สิงห์สมบูรณ์
๙๔) นางสาวสุภาณิพร พรหมจันทร์
๙๕) นายกรรติ หวีราช
๙๖) นายจักริน หมั่นวิชา
๙๗) นายฉัตรชัย สุขชัย
๙๘) นายณรณห์ คีร์ทองคำ
๙๙) นายศุภพล สมนอก
๑๐๐) นายศักดิ์ชัย อุบลศรี
๑๐๑) นายธนพร นามะกุลธนา
๑๐๒) นายสิทธิศักดิ์ บำรุง
๑๐๓) นายณนทชัย รูปโหม
๑๐๔) นายณัฐพล คุณสุทธิ
๑๐๕) นายณัฏฐ์ สารี
๑๐๖) นายปิยะนุช พลมะศรี
๑๐๗) นายพงศ์สิริ โสณชัย
๑๐๘) นายพิรพัฒน์ คำคำ
๑๐๙) นายภาณุพงศ์ มานิตย์
๑๑๐) นายมงคล ผลาทรัพย์
๑๑๑) นายสิริวัน พงษ์อิน
๑๑๒) นายธนชา พันธมัย
๑๑๓) นายอดิศักดิ์ ฝอย

3/11/25

เอกสารแนบท้ายหนังสือรับทราบข้อเท็จจริงและขอความร่วมมือในการปฏิบัติภารกิจของ
บริษัท เอลเอกซ์ แล็บส์ จำกัด (ประเทศไทย) จำกัด เลขที่ ๖๒๕
ที่ ๑๑๑(๑) / ๖๒๕๖๕ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๕

๓. ขอบข่ายการปฏิบัติงานที่ได้รับมอบหมายจากกรมโรงงานอุตสาหกรรม จำนวน ๑๕๕ รายการ
แนบ จำนวน ๕๐ รายการ

ลำดับที่	สารเคมี	วิธีการตรวจ
1	Aldicarb	High-Performance Liquid Chromatographic Method ⁽¹⁾
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method ⁽¹⁾
3	Aldicarb Sulfonide	High-Performance Liquid Chromatographic Method ⁽¹⁾
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽¹⁾
6	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽¹⁾
7	α-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
8	β-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
9	δ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
10	γ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method ⁽¹⁾ 2) 5-Day BOD Test, Membrane Electrode Method ⁽¹⁾
12	Carbaryl	High-Performance Liquid Chromatographic Method ⁽¹⁾
13	Carbofuran	High-Performance Liquid Chromatographic Method ⁽¹⁾
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽¹⁾
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method ⁽¹⁾ 2) Closed Reflux, Titrimetric Method ⁽¹⁾
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
17	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽¹⁾
18	Color	ADM Weighted-Ordinate Spectrophotometric Method ⁽¹⁾

ลำดับที่	สารเคมี	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
20	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Formaldehyde	Distillation, Colorimetric Method ⁽³⁾
34	Free Chlorine	1) DPD Ferrous Titrimetric Method ⁽⁴⁾ 2) DPD Colorimetric Method ⁽⁴⁾
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
36	Heptachlor Epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
37	Hexavalent Chromium	Colorimetric Method ⁽⁴⁾
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method ⁽⁴⁾
39	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

40 Manganese...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
40	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass spectrometric Method ⁽⁴⁾
42	Methiocarb	High-Performance Liquid Chromatographic Method ⁽⁴⁾
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
44	Methomyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
45	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ⁽⁴⁾ 2) Soxhlet Extraction Method ⁽⁴⁾
47	Oxamyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
48	Propoxur	High-Performance Liquid Chromatographic Method ⁽⁴⁾
49	pH	Electrometric Method ⁽⁴⁾
50	Phenols	1) Distillation, Chloroform Extraction Method ⁽⁴⁾ 2) Distillation, Direct Photometric Method ⁽⁴⁾
51	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
52	Sulfide	Iodometric Method ⁽⁴⁾
53	Temperature	Laboratory and Field Method ⁽⁴⁾
54	Total Dissolved Solids	Dried at 180 °C ⁽⁴⁾
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ⁽⁴⁾
56	Total Phosphorus	Digestion, Colorimetric Method ⁽⁴⁾
57	Total Suspended Solids	Dried from 103-105 °C ⁽⁴⁾
58	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
59	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
60	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾

น้ำได้ดิน...

น้ำได้ดิน จำนวน 126 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
8	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	Carbon disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
35	Chromium (VI)	Colorimetric Method ⁽⁴⁾

36 Chrysene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
37	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

56 1,3-Dichloropropene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
63	Di-n-octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

76 γ-HCH...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
81	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
83	Mercury	1) Digestion, Cold Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
84	Methanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
86	Methyl bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
87	Methylene chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
90	Methyl tert-butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

94 N-Nitrosodiphenylamine...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1256	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
98	pH	Electrometric Method ⁽⁴⁾
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
100	Phenol	1) Distillation, Chloroform Extraction Method ⁽⁴⁾ 2) Distillation, Direct Photometric Method ⁽⁴⁾ 3) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
102	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
103	Silver	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
109	TPH (C ₈ -C ₁₆)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,25)

110 TPH (C₈-C₁₆)...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
110	TPH (C ₈ -C ₁₆)	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^(9,22)
111	TPH (C ₁₆ -C ₃₅)	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^(9,22)
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾
120	Vinyl acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
121	Vinyl chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
122	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
123	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
124	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
126	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾

อากาศเสีย...

อากาศเสีย (ปล่อยระบาย) จำนวน 28 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
2	Arsenic	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
3	Beryllium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
4	Cadmium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
5	Carbon Monoxide	1) Instrumental Analyzer Method ⁽³⁾ 2) Sampling Bag Non-Dispersive Infrared Method ⁽³⁾
6	Chlorine	1) Absorption Sampling, Ion Chromatographic Method ⁽³⁾ 2) Isokinetic Sampling, Ion Chromatographic Method ⁽³⁾
7	Chromium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
8	Cobalt	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
9	Copper	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
10	Cresol	Absorption Sampling, Gas Chromatographic Method ⁽³⁾
11	Dioxins	Isokinetic Sampling ⁽³⁾
12	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method ⁽³⁾ 2) Isokinetic Sampling, Ion Chromatographic Method ⁽³⁾
13	Hydrogen Fluoride	1) Absorption Sampling, Ion Chromatographic Method ⁽³⁾ 2) Isokinetic Sampling, Ion Chromatographic Method ⁽³⁾
14	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ⁽³⁾

15 Lead...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	Lead	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
16	Manganese	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
17	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽³⁾
18	Nickel	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
19	Opacity	Ringelmann's Method ⁽²⁾
20	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method ⁽³⁾ 2) Absorption Sampling, Alkaline Permanganate/Colorimetric Method ⁽³⁾ 3) Instrumental Analyzer Method ⁽³⁾
21	Selenium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
22	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method ⁽³⁾ 2) Instrumental Analyzer Method ⁽³⁾
23	Sulfuric Acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method ⁽³⁾
24	Tellurium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
25	Tin	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
26	Total Suspended Particulate	1) Isokinetic Sampling, Gravimetric Method ⁽³⁾ 2) Paired Train, Isokinetic Sampling, Gravimetric Method ⁽³⁾

27 Vanadium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Vanadium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽³⁾ 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽³⁾
28	Xylene	Absorption Sampling, Gas Chromatographic Method ⁽³⁾

สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,20) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,20) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,20)
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)

5 Beryllium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1.6.16,19) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1.6.17,19) 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7.8,16,19) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7.8,17,19)

10 Chromium (VI)...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method ^(1.6.19) 2) Alkaline Digestion, Colorimetric Method ^(8.19)
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24)

2) Soxhlet...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26) 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)

22 Mercury...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^(1.6.20) 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^(1.6.30) 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽²⁸⁾ 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽³⁰⁾ 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ⁽²¹⁾
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.14) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.17) 3) Digestion, Inductively Coupled Plasma Method ^(7.16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.17)
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.24) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10.26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11.26)

- 2-Chlorobiphenyl...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
28	- 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5'-Trichlorobiphenyl - 2,4',5'-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3',3',4',6'-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6'-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6'-Heptachlorobiphenyl - 2,2',3,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26) Electrometric Method ^(23,24) 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
29	pH	
30	Selenium	

31 Silver...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
35	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)

ดิน...

ดิน จำนวน 125 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
2	Acetone	1) Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method ⁽¹³⁾
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
8	Barium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
9	Benz(a)anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
10	Benzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(15,25)

11 Benzo(b)fluoranthene

ลำดับที่	สารเคมี	วิธีวิเคราะห์
11	Benzo(b)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
12	Benzo(k)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
13	Benzoic acid	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
14	Benzo(a)pyrene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
15	Benzo(g,h,i)perylene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
17	Bis(2-chloroethyl)ether	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
18	Bis(2-ethylhexyl)phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(15,25)
20	Bromoform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(15,25)
21	Butanol	Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method ^(13,25)
22	Butyl Benzyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)

23 Cadmium...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^(7,14) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(10,17)
24	Carbazole	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
28	p-Chloroaniline	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
32	2-Chlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ^(7,14) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(10,17)
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,16,19) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,17,19)
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method ^(8,19)

36 Chrysene...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
36	Chrysene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
37	Cyanide	Extraction, Distillation, Colorimetric Method ^(27,28,29)
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
39	DDD	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
40	DDE	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
41	DDT	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
42	Dibenz(a,h)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
43	Di-n-Butyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
47	3,3-Dichlorobenzidine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)

49 1,2-Dichloroethane...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
53	2,4-Dichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
57	Diendrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
58	Diethyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
59	2,4-Dimethylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
60	2,4-Dinitrophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
61	2,4-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
62	2,6-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

63 Di-n-Octyl Phthalate...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
63	Di-n-Octyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
67	Fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
68	Fluorene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
70	Heptachlor epoxide	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
73	n-Hexane	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

73 n-Hexane...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
74	α -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
75	β -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
76	γ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
77	Hexachlorocyclopentadiene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
78	Hexachloroethane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
79	Indeno(1,2,3-cd)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
80	Isophorone	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
81	Lead	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽²⁸⁾ 2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry ⁽²¹⁾ 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽²⁸⁾

84 Methanol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
88	2-methylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
89	2-Methylnaphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
91	Naphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
93	Nitrobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
94	N-Nitrosodiphenylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
95	N-Nitrosodi-n-propylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

96 Polychlorinated biphenyls (PCBs)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6'-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
97	Pentachlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
98	Phenanthrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

99 Phenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
99	Phenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
100	Pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
101	Selenium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
102	Silver	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
108	TPH (C ₈ -C ₆)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
109	TPH (C ₈ -C ₁₆)	1) Automated Extraction, Gas Chromatographic Method ^(12,22) 2) Solvent Extraction, Gas Chromatographic Method ^(12,22) 3) Ultrasonic Extraction, Gas Chromatographic Method ^(22,23)
110	TPH (C ₁₆ -C ₃₅)	1) Automated Extraction, Gas Chromatographic Method ^(12,22) 2) Solvent Extraction, Gas Chromatographic Method ^(12,22) 3) Ultrasonic Extraction, Gas Chromatographic Method ^(22,23)
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)

115 2,4,5-Trichlorophenol...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
115	2,4,5-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
116	2,4,6-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,23)
125	Zinc	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)

เอกสารอ้างอิง

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31

ที่ ๒๓๐๘๐๓/๔๓๒๓

กรมโรงงานอุตสาหกรรม
ถนนพหลโยธินที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพมหานคร ๑๐๕๐๐

๒๕ มิถุนายน ๒๕๖๗

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอลเอส แอนด์เอส กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอเสนอเปลี่ยน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขอคืนสมาชิกของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๒๕ มีนาคม ๒๕๖๗

ตามที่ขอที่อ้างถึง บริษัท เอลเอส แอนด์เอส กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ
วิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๐๔ สถาบันที่ ๑๐๔ ขอแจ้งผลการ ๕๐ กรมพัฒนาการ เสริมพัฒนาการ
เขตสวนหลวง กรุงเทพมหานคร ของเปลี่ยนแปลงบุคลากร ความละเอียดดังนี้

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้อนุมัติจำนวนที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๓ ราย
- ๑) นางสาวพรนิตา หุ่นคง ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๒๕
- ๒) นายคำชัย สุทธิยะ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๒๖
- ๓) นางสาวศุภรดา ปิ่นสุภา ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๓๗
๒. ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๑๒ ราย
- ๑) นางสาวฐานิดา กลิ่นเขียว ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๓๘
- ๒) นางสาวกัญญ์วิมล สายคำ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๓๙
- ๓) นางสาวณัฐนันท์ กิมพารักษ์ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๐
- ๔) นายอำนาจ วงศ์คน ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๑
- ๕) นายภูวนารถ ปิณฑารักษ์ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๒
- ๖) นายณฐกร ธรรมา ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๓
- ๗) นายวัชรินทร์ มั่งคั่งสวน ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๔
- ๘) นายณัฐพงศ์ โสภะ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๕
- ๙) นายศักรินทร์ ปานเพ็ง ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๖
- ๑๐) นายณัฐพล ชูชื่น ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๗
- ๑๑) นายอนา สุภาพบุ ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๘
- ๑๒) นายณรรักษ์ แก้วพริ้งชา ทะเบียนเลขที่ ๖-๒๐๐๔-๙-๐๐๔๙

ซึ่ง หนังสือฉบับนี้...

- ๕๓) นายพรพรกร เคียงเจริญ
๕๓) นายพิรารักษ์ เกื้อมุก
๕๔) นายอนุวัตร ทองขจรศักดิ์
๕๕) นายอภิชาติ วิเศษ
๕๖) นายจิรธร ตรีวิเศษ
๕๗) นายประสาธน์มิตร เกื้อนเพชร
๕๘) นายอนุวัฒน์ วิกรม
๖๐) นายสันติ ชัยชนะ
๖๑) นายทิมกร กุศลชาติ

- ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๔
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๕
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๖
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๗
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๘
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕๙
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๐๐
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๐๑
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๐๒

๓. ขอบข่ายนิยามสารมลพิษที่ได้รับขึ้นทะเบียนไว้ในคราวนี้ในน้ำเสีย น้ำใต้ดิน อากาศเสีย ตามสิ่งต่อไปนี้

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒๘ มิถุนายน ๒๕๖๓ หากประสงค์จะต่ออายุหนังสือ ขึ้นทะเบียนหรือขออนุญาตปฏิบัติการวิเคราะห์นอกเหนือจากสารประกอบค่าของต่อกรมโรงงานอุตสาหกรรมภายใน ๖๐ วัน ก่อนวันสิ้นสุดของหนังสือขึ้นทะเบียนหรือขออนุญาตปฏิบัติการวิเคราะห์นอกเหนือ

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ


(นายพรพรกร กุศลชาติ)
รองเลขาธิการกรมโรงงานอุตสาหกรรม
อธิบดีกรมโรงงานอุตสาหกรรม

ศูนย์วิจัยและเฝ้าระวังมลพิษโรงงานภาคตะวันออก

โทร. ๐ ๓๓๐๓๓ ๖๐๕๕๔ ถึง ๕๐๐๑๒-๒

ไปรษณีย์อิเล็กทรอนิกส์ env@div.mae.go.th



"อุตสาหกรรมก้าวไกล ประเพณีไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว"



เอกสารแนบท้ายหนังสือเวียนแบ่งสารมลพิษของห้องปฏิบัติการวิเคราะห์นอกเหนือจากสารประกอบค่าของต่อกรมโรงงานอุตสาหกรรม
บริษัท เอนเอชแอล แลปอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๒๒๓
ที่อก ๐๖๒๐/ ๗๔๓๘ ลงวันที่ ๐๘ สิงหาคม ๒๕๖๗

ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๒๔ รายการ
น้ำเสีย จำนวน ๑๔ รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Biochemical Oxygen Demand	1) 5-Day BOD Test, Membrane Electrode Method ⁽¹⁾ 2) 5-Day BOD Test, Azide Modification Method ⁽²⁾
2	Chemical Oxygen Demand	1) Open Reflux, Titrimetric Method ⁽³⁾ 2) Closed Reflux, Colorimetric Method ⁽²⁾ 3) Closed Reflux, Titrimetric Method ⁽²⁾
3	Color	ADMI Weighted-Ordinate Spectrophotometric Method ⁽²⁾
4	Cyanide	Distillation, Colorimetric Method ⁽²⁾
5	Formaldehyde	Distillation, Colorimetric Method ⁽¹⁾
6	Free Chlorine	DPO Ferrous Titrimetric Method ⁽²⁾
7	Oil and Grease	Liquid-Liquid, Partition-Gravimetric Method ⁽²⁾
8	pH	Electrometric Method ⁽²⁾
9	Phenols	1) Distillation, Chloroform Extraction Method ⁽²⁾ 2) Distillation, Direct Photometric Method ⁽²⁾
10	Sulfide	ZnS Precipitation, Iodometric Method ⁽²⁾
11	Temperature	Field Method ⁽²⁾
12	Total Dissolved Solids	Dried at 180 °C ⁽²⁾
13	Total Kjeldahl Nitrogen	Semi-Macro Kjeldahl Method ⁽²⁾
14	Total Suspended Solids	Dried at 105-105 °C ⁽²⁾

น้ำใต้ดิน จำนวน 3 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Cyanide	Distillation, Colorimetric Method ⁽²⁾
2	pH	Electrometric Method ⁽²⁾
3	Phenols	Distillation, Direct Photometric Method ⁽²⁾

อากาศเสีย

-2-

อากาศเสีย (ปล่อยจวนวณ) จำนวน 7 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Carbon Monoxide	1) Sampling Bag, Non-Dispersive Infrared Method ⁽⁵⁾ 2) Instrumental Analyzer Method ⁽⁹⁾
2	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ⁽³⁾
3	Opacity	Ringelmann's Method ^(2,4)
4	Oxide of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method ⁽⁸⁾ 2) Instrumental Analyzer Method ⁽¹⁰⁾
5	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Acid Method ⁽⁵⁾ 2) Instrumental Analyzer Method ⁽¹¹⁾
6	Sulfuric Acid	Isokinetic Sampling, Barium - Titrimetric Method ⁽⁶⁾
7	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method ⁽⁷⁾

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๑๔ ตุลาคม ๒๕๖๗

เรื่อง แก้ไขรายชื่อเจ้าหน้าที่ต้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท แอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง หนังสือ บริษัท แอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขที่ Eiv 2024/005
ลงวันที่ ๑๐ สิงหาคม ๒๕๖๗

ตามที่หนังสืออ้างถึง บริษัท แอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอปฏิบัติการ
วิเคราะห์เอกชน เลขทะเบียน ๖-๑๒๓ สถานที่ตั้งเลขที่ ๖๑๖/๑๐ หมู่ที่ ๕ ตำบลแม่ไม้ อำเภอลำปางและ
จังหวัดพะเยา ขอแก้ไขชื่อเจ้าหน้าที่ต้องปฏิบัติการวิเคราะห์เอกชน เนื่องจากมีความคลาดเคลื่อน ความละเอียด
แจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรม ได้รับทราบและดำเนินการแก้ไขรายชื่อเจ้าหน้าที่ต้องปฏิบัติการ
วิเคราะห์เอกชน จำนวน ๕ ราย ตามที่แจ้งเรียบร้อยแล้ว เป็นดังนี้

ลำดับที่ ๒๗ นางพจนา สีตา

ลำดับที่ ๒๘ นางสาวอนิศา กุลสุวิวงศ์

ลำดับที่ ๓๐ นายชัชชา สุนทร

ลำดับที่ ๓๖ นายสุทธิสารค์ โศภิตินันท์

ลำดับที่ ๔๒ นายกมลภณ ภูมิสัมพันธ์

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

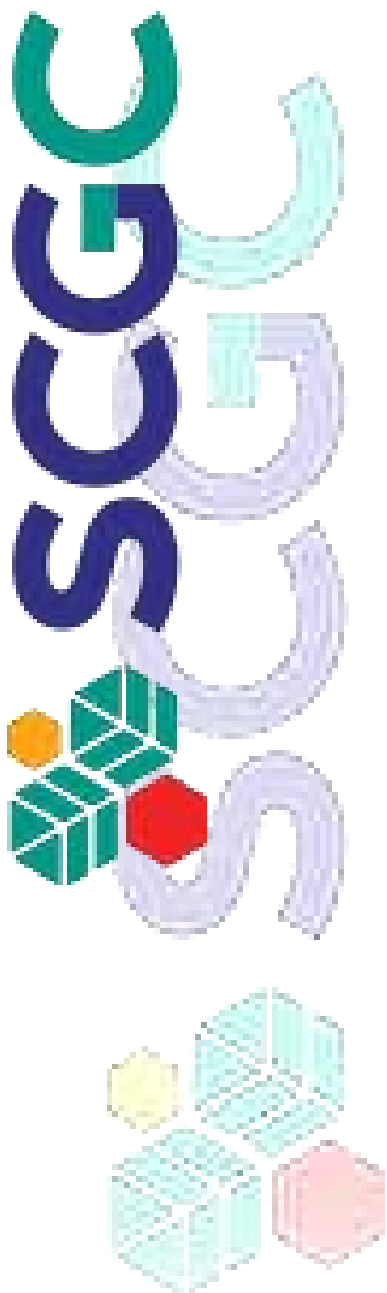

(นายพรต กัณกรอง)
รองอธิบดี ปฏิบัติราชการแทน
อธิบดีกรมโรงงานอุตสาหกรรม

ศูนย์วิจัยและเตือนภัยมลพิษโรงงานภาคตะวันออก
โทร. ๐ ๓๓๓๓ ๖๐๕๙ ต่อ ๕๐๐๑-๒
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