

# ภาคผนวก ค

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ใบรับรองผลการวิเคราะห์



## Analysis Report BK2524220



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2524220**  
Report Number : BK2524220-AA  
Date Received : Jul 11, 2025  
Date Reported : Jul 22, 2025  
Date Analysis Commenced : Jul 11, 2025  
No. of samples received : 4  
Temperature : 4.0 °C  
Sampled by : Panupong Homewong

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.

### Signatories

Kittitee Jamjumroon  
Scientist (3)

## Terms and Conditions

### GENERAL

- a) ALS will provide the Services described in the accompanying tender, quotation, or email to the Client, which together with these terms and conditions will hereafter be called the 'Agreement'.
- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

- a) ALS will provide the Services by exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances.
- b) The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in ALS's standard testing methodology, the ALS Report and its contents. All data and ALS Reports relate to the sample tested only.
- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

### FEES AND PAYMENT

- a) For Clients with an approved credit account, payment terms are 30 days from the date of invoice. For all other Clients, payment is due on receipt of samples by ALS, unless negotiated otherwise. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.
- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

- a) ALS may suspend or terminate its obligations under this Agreement if (a) monies payable to ALS by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice the breach to be remedied, or (c) by giving the Client 60 days written notice of ALS's intention to terminate.
- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

### MISCELLANEOUS

- a) Any provision of this Agreement that is illegal, invalid or unenforceable will be severed to the extent that it is illegal, invalid or unenforceable, with the remainder of the Agreement continuing in full force.
- b) This Agreement is governed by the law of the state or territory in which the Services are provided, and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that place.

### DEFINITIONS

- a) **ALS** means ALS Laboratory Group (Thailand) Co., Ltd. Registration No. 0105540004859, and each of its related bodies corporate (as defined in the Civil and Commercial Code).
- b) **ALS IP** means all intellectual property and proprietary rights (whether registered or unregistered) owned by ALS prior to performance of the Services, developed by ALS in performance of the Services, or developed by ALS outside of, or after, performance of the Services, and without limitation includes business names, trade or service marks, any right to have information (including confidential information) kept confidential, patents, patent applications, drawings, discoveries, inventions, improvements, trade secrets, technical data, formulae, databases, know-how, logos, designs, design rights, copyright and similar industrial or intellectual property rights.
- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2524220

Report Number : BK2524220-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2524220-001	น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2524220-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอกโครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2524220-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2524220-004	สระสป้า	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - CI (F)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B



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  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
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- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2524220

Report Number : BK2524220-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

Client Sample ID

น้ำทิ้งที่บ่อดักน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

(Matrix: WATER)

Sampling Date

Jul 11, 2025 08:30 AM

Jul 11, 2025 08:25 AM

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Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2524220-001	BK2524220-002	-----
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----

## Chemical Parameters

EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	102	19.4	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	9	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.4	7.3	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	6.0 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	52.8	22.5	----

## Microbiological Parameters

MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	24000000	240000	----
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## Physical and Aggregate Properties

EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	0.9 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	240	268	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	55	17	----

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### LIMITATION OF LIABILITY

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- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

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- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

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- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

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- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2524220

Report Number : BK2524220-AA



TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER								Client Sample ID	น้ำสระใหญ่	สระสเปา	----
(Matrix: WATER)											
								Sampling Date	Jul 11, 2025 08:15 AM	Jul 11, 2025 08:20 AM	----
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2524220-003	BK2524220-004	-----	
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----	
Chemical Parameters											
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	----	7.2-8.4	7.3 *	7.7 *	----	
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	----	0.6-1	0.7 *	1.0 *	----	
Microbiological Parameters											
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	----	<10	<1.1	<1.1	----	
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	----	Not Detected	Not Detected	Not Detected	----	
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	<1	<1	----	

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

Key:

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

----- END OF REPORT -----

## Terms and Conditions

### GENERAL

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- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

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- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
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  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

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## Analysis Report BK2527721



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2527721**  
Report Number : BK2527721-AA  
Date Received : Aug 06, 2025  
Date Reported : Aug 18, 2025  
Date Analysis Commenced : Aug 06, 2025  
No. of samples received : 4  
Temperature : 2.0 °C  
Sampled by : Pichai Boonyong

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.

### Signatories

Kittitee Jamjumroon  
Scientist (3)

## Terms and Conditions

### GENERAL

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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2527721

Report Number : BK2527721-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2527721-001	น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2527721-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอกโครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2527721-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2527721-004	สระสป้า	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - CI (F)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B



## Terms and Conditions

### GENERAL

- a) ALS will provide the Services described in the accompanying tender, quotation, or email to the Client, which together with these terms and conditions will hereafter be called the 'Agreement'.
- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

- a) ALS will provide the Services by exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances.
- b) The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in ALS's standard testing methodology, the ALS Report and its contents. All data and ALS Reports relate to the sample tested only.
- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

### FEES AND PAYMENT

- a) For Clients with an approved credit account, payment terms are 30 days from the date of invoice. For all other Clients, payment is due on receipt of samples by ALS, unless negotiated otherwise. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.
- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

- a) ALS may suspend or terminate its obligations under this Agreement if (a) monies payable to ALS by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice the breach to be remedied, or (c) by giving the Client 60 days written notice of ALS's intention to terminate.
- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

### MISCELLANEOUS

- a) Any provision of this Agreement that is illegal, invalid or unenforceable will be severed to the extent that it is illegal, invalid or unenforceable, with the remainder of the Agreement continuing in full force.
- b) This Agreement is governed by the law of the state or territory in which the Services are provided, and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that place.

### DEFINITIONS

- a) **ALS** means ALS Laboratory Group (Thailand) Co., Ltd. Registration No. 0105540004859, and each of its related bodies corporate (as defined in the Civil and Commercial Code).
- b) **ALS IP** means all intellectual property and proprietary rights (whether registered or unregistered) owned by ALS prior to performance of the Services, developed by ALS in performance of the Services, or developed by ALS outside of, or after, performance of the Services, and without limitation includes business names, trade or service marks, any right to have information (including confidential information) kept confidential, patents, patent applications, drawings, discoveries, inventions, improvements, trade secrets, technical data, formulae, databases, know-how, logos, designs, design rights, copyright and similar industrial or intellectual property rights.
- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
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- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2527721

Report Number : BK2527721-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

(Matrix: WATER)

Client Sample ID

น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

Sampling Date

Aug 06, 2025 08:50 AM

Aug 06, 2025 08:40 AM

----

Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2527721-001	BK2527721-002	-----
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----

## Chemical Parameters

EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	77.6	6.6	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	8	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.7	7.6	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	6.0 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	52.2	3.5	----

## Microbiological Parameters

MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	4900000	33000	----
--------	---------	-----------------	------	------	-----------	------	------	---------	-------	------

## Physical and Aggregate Properties

EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	0.1 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	292	276	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	32	14	----

## Terms and Conditions

### GENERAL

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- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

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- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

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- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

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- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

- a) ALS may suspend or terminate its obligations under this Agreement if (a) monies payable to ALS by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice the breach to be remedied, or (c) by giving the Client 60 days written notice of ALS's intention to terminate.
- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
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- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

### MISCELLANEOUS

- a) Any provision of this Agreement that is illegal, invalid or unenforceable will be severed to the extent that it is illegal, invalid or unenforceable, with the remainder of the Agreement continuing in full force.
- b) This Agreement is governed by the law of the state or territory in which the Services are provided, and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that place.

### DEFINITIONS

- a) **ALS** means ALS Laboratory Group (Thailand) Co., Ltd. Registration No. 0105540004859, and each of its related bodies corporate (as defined in the Civil and Commercial Code).
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- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2527721

Report Number : BK2527721-AA



TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER							Client Sample ID		น้ำสระใหญ่	สระสเปา	----
(Matrix: WATER)											
Sampling Date								Aug 06, 2025 08:35 AM	Aug 06, 2025 08:30 AM	----	
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2527721-003	BK2527721-004	-----	
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----	
Chemical Parameters											
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	----	7.2-8.4	7.7 *	8.2 *	----	
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	----	0.6-1	0.9 *	1.0 *	----	
Microbiological Parameters											
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	----	<10	<1.1	<1.1	----	
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	----	Not Detected	Not Detected	Not Detected	----	
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	<1	<1	----	

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

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

----- END OF REPORT -----

## Terms and Conditions

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- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

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- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

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- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

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- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
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- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

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### DEFINITIONS

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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
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## Analysis Report BK2531915



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2531915**  
Report Number : BK2531915-AA  
Date Received : Sep 10, 2025  
Date Reported : Sep 24, 2025  
Date Analysis Commenced : Sep 10, 2025  
No. of samples received : 4  
Temperature : 3.0 °C  
Sampled by : Panupong Homewong

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.

### Signatories

Tuanjai Thangklang  
Lab Manager - Microbiology

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# Analysis Report BK2531915

Report Number : BK2531915-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2531915-001	น้ำทิ้งที่บ่อดักน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2531915-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอกโครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2531915-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2531915-004	สระสป้า	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - CI (F)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B



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- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

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- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
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# Analysis Report BK2531915

Report Number : BK2531915-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

Client Sample ID

น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

(Matrix: WATER)

Sampling Date

Sep 10, 2025 09:00 AM

Sep 10, 2025 08:55 AM

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Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2531915-001	BK2531915-002	-----
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----
Chemical Parameters										
EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	118	9.8	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	10	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.2	7.0	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	4.8 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	48.9	4.0	----
Microbiological Parameters										
MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	24000000	24000	----
Physical and Aggregate Properties										
EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	0.5 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	216	240	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	55	9	----

## Terms and Conditions

### GENERAL

- a) ALS will provide the Services described in the accompanying tender, quotation, or email to the Client, which together with these terms and conditions will hereafter be called the 'Agreement'.
- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

- a) ALS will provide the Services by exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances.
- b) The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in ALS's standard testing methodology, the ALS Report and its contents. All data and ALS Reports relate to the sample tested only.
- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

### FEES AND PAYMENT

- a) For Clients with an approved credit account, payment terms are 30 days from the date of invoice. For all other Clients, payment is due on receipt of samples by ALS, unless negotiated otherwise. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.
- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

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# Analysis Report BK2531915

Report Number : BK2531915-AA



TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER								Client Sample ID	น้ำสระใหญ่	สระสเปา	----
(Matrix: WATER)											
								Sampling Date	Sep 10, 2025 08:45 AM	Sep 10, 2025 08:50 AM	----
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2531915-003	BK2531915-004	-----	
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----	
Chemical Parameters											
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	----	7.2-8.4	7.2 *	8.0 *	----	
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	----	0.6-1	0.7 *	0.8 *	----	
Microbiological Parameters											
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	----	<10	<1.1	<1.1	----	
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	----	Not Detected	Not Detected	Not Detected	----	
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	<1	<1	----	

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

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

----- END OF REPORT -----

## Terms and Conditions

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## Analysis Report BK2535693



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2535693**  
Report Number : BK2535693-AA  
Date Received : Oct 08, 2025  
Date Reported : Oct 20, 2025  
Date Analysis Commenced : Oct 08, 2025  
No. of samples received : 2  
Temperature : 3.5 °C  
Sampled by : Chulladet Warin

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.

### Signatories

Kittitee Jamjumroon  
Scientist (3)

## Terms and Conditions

### GENERAL

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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

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- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2535693

Report Number : BK2535693-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2535693-001	น้ำทิ้งที่บ่อกักน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2535693-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอกโครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B



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# Analysis Report BK2535693

Report Number : BK2535693-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

(Matrix: WATER)

Client Sample ID

น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

Sampling Date

Oct 08, 2025 08:44 AM

Oct 08, 2025 08:42 AM

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Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2535693-001	BK2535693-002	-----
						MNRE 2567 Type A	----	Result	Result	----

## Chemical Parameters

EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	92.7	12.5	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	9	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.4	7.4	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	6.4 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	39.9	17.6	----

## Microbiological Parameters

MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	35000000	33000	----
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## Physical and Aggregate Properties

EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	<0.1 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	188	264	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	38	10	----

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

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

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

----- END OF REPORT -----

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  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

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- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

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- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

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- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



## Analysis Report BK2535693



ISO/IEC 17025  
Accreditation No. 1031/47



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2535693**  
Report Number : BK2535693-AB  
Date Received : Oct 08, 2025  
Date Reported : Oct 20, 2025  
Date Analysis Commenced : Oct 08, 2025  
No. of samples received : 2  
Temperature : 3.5 °C  
Sampled by : Chulladet Warin

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.

### Signatories

Kittitee Jamjumroon  
Scientist (3)

## Terms and Conditions

### GENERAL

- a) ALS will provide the Services described in the accompanying tender, quotation, or email to the Client, which together with these terms and conditions will hereafter be called the 'Agreement'.
- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

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- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
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# Analysis Report BK2535693

Report Number : BK2535693-AB



ISO/IEC 17025  
Accreditation No. 1031/47



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2535693-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2535693-004	สระสปา	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - Cl (F)
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B

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# Analysis Report BK2535693

Report Number : BK2535693-AB



ISO/IEC 17025  
Accreditation No. 1031/47

TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER							Client Sample ID	น้ำสระใหญ่	สระสเปา	----	
(Matrix: WATER)											
							Sampling Date		Oct 08, 2025 08:32 AM	Oct 08, 2025 08:36 AM	----
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2535693-003	BK2535693-004	-----	
						MOPH 1/2550	----	Result	Result	----	
Chemical Parameters											
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	7.2-8.4	----	7.1 *	8.0 *	----	
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	0.6-1	----	0.9 *	0.8 *	----	
Microbiological Parameters											
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	<10	----	<1.1	<1.1	----	
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	Not Detected	----	Not Detected	Not Detected	----	
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	<1	<1	----	

Guideline: MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

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

----- END OF REPORT -----



## Terms and Conditions

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- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

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- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

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- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



## Analysis Report BK2538611



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2538611**  
Report Number : BK2538611-AA  
Date Received : Nov 12, 2025  
Date Reported : Nov 25, 2025  
Date Analysis Commenced : Nov 12, 2025  
No. of samples received : 2  
Temperature : 3.2 °C  
Sampled by : Chulladet Warin

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.

### Signatories

Sithichok

Sithichok Thong-Nguen  
Scientist (3)

ALS Laboratory Group (Thailand) Co.,Ltd. Bangkok Life Sciences

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand T +662 760 3000

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# Analysis Report BK2538611

Report Number : BK2538611-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2538611-001	น้ำทิ้งที่บ่อกักน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2538611-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอกโครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B

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- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
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  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
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# Analysis Report BK2538611

Report Number : BK2538611-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

(Matrix: WATER)

Client Sample ID

น้ำทิ้งที่บ่อดักน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

Sampling Date

Nov 12, 2025 08:50 AM

Nov 12, 2025 08:48 AM

----

Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2538611-001	BK2538611-002	-----
						MNRE 2567 Type A	----	Result	Result	----

## Chemical Parameters

EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	84.1	3.2	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	7	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.2	7.1	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	5.7 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	43.6	2.1	----

## Microbiological Parameters

MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	790000	3300	----
--------	---------	-----------------	------	------	-----------	------	------	--------	------	------

## Physical and Aggregate Properties

EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	<0.1 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	260	224	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	29	6	----

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

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

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

----- END OF REPORT -----

## Terms and Conditions

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- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
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- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
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## Analysis Report BK2538611



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2538611**  
Report Number : BK2538611-AB  
Date Received : Nov 12, 2025  
Date Reported : Nov 25, 2025  
Date Analysis Commenced : Nov 12, 2025  
No. of samples received : 2  
Temperature : 3.2 °C  
Sampled by : Chulladet Warin

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.

### Signatories

Sithichok

Sithichok Thong-Nguen

Scientist (3)

ALS Laboratory Group (Thailand) Co.,Ltd. Bangkok Life Sciences

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand T +662 760 3000



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# Analysis Report BK2538611

Report Number : BK2538611-AB



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2538611-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2538611-004	สระสเปา	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - Cl (F)
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B

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### LIMITATION OF LIABILITY

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- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
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  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

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- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

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- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
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  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

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# Analysis Report BK2538611

Report Number : BK2538611-AB



TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER							Client Sample ID		น้ำสระใหญ่		สระสเปา		----		
(Matrix: WATER)															
								Sampling Date		Nov 12, 2025 08:43 AM		Nov 12, 2025 08:40 AM		----	
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2538611-003		BK2538611-004		-----			
						MOPH 1/2550	----	Result		Result		----			
Chemical Parameters															
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	7.2-8.4	----	7.2 *		7.8 *		----			
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	0.6-1	----	0.9 *		1.0 *		----			
Microbiological Parameters															
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	<10	----	>23		>23		----			
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	Not Detected	----	Detected		Not Detected		----			
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	120		190		----			

Guideline: MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

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

----- END OF REPORT -----

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## Analysis Report BK2543358



TESTING  
No.0009

Client : Suwan Estate Co., Ltd.  
1511, Sukhumvit Rd., Phra Khanong Nuea, Watthana, Bangkok, Thailand, 10110  
P/O : JR2411056  
Project : ----  
Project Location: Jasmine Resort Hotel : Sukhumvit 67-69 (BTS Phra Khanong)

Work Order : **BK2543358**  
Report Number : BK2543358-AA  
Date Received : Dec 09, 2025  
Date Reported : Dec 20, 2025  
Date Analysis Commenced : Dec 10, 2025  
No. of samples received : 4  
Temperature : 3.6 °C  
Sampled by : Panupong Homewong

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.

### Signatories

Sithichok

Sithichok Thong-Nguen

Scientist (3)

ALS Laboratory Group (Thailand) Co.,Ltd. Bangkok Life Sciences

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand T +662 760 3000

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  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

- a) ALS may suspend or terminate its obligations under this Agreement if (a) monies payable to ALS by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice the breach to be remedied, or (c) by giving the Client 60 days written notice of ALS's intention to terminate.
- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

### MISCELLANEOUS

- a) Any provision of this Agreement that is illegal, invalid or unenforceable will be severed to the extent that it is illegal, invalid or unenforceable, with the remainder of the Agreement continuing in full force.
- b) This Agreement is governed by the law of the state or territory in which the Services are provided, and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that place.

### DEFINITIONS

- a) **ALS** means ALS Laboratory Group (Thailand) Co., Ltd. Registration No. 0105540004859, and each of its related bodies corporate (as defined in the Civil and Commercial Code).
- b) **ALS IP** means all intellectual property and proprietary rights (whether registered or unregistered) owned by ALS prior to performance of the Services, developed by ALS in performance of the Services, or developed by ALS outside of, or after, performance of the Services, and without limitation includes business names, trade or service marks, any right to have information (including confidential information) kept confidential, patents, patent applications, drawings, discoveries, inventions, improvements, trade secrets, technical data, formulae, databases, know-how, logos, designs, design rights, copyright and similar industrial or intellectual property rights.
- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2543358

Report Number : BK2543358-AA



TESTING  
No.0009

## Sample Receipt and Conditions

Sample ID	Sample Name	Sample Description	GPS	Conditions
BK2543358-001	น้ำทิ้งที่ปล่อยน้ำก่อนเข้าระบบบำบัดน้ำเสีย	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2543358-002	น้ำทิ้งที่ผ่านการบำบัดก่อนระบายออกสู่ภายนอก โครงการ	----	----	1x Plastic bottle - Preserved with H <sub>2</sub> SO <sub>4</sub> , 2x 1L Plastic Bottle, 1x Plastic Bottle - Preserved with Zinc Acetate and NaOH, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, 1x Oil & Grease, refrigerated
BK2543358-003	น้ำสระใหญ่	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated
BK2543358-004	สระสป่า	----	----	1x 500mL Plastic Bottle, 1x Sterile Bottle - Preserved with Sodium Thiosulfate, refrigerated

## Brief Method Summaries

The methods in the analysis report are short format, refer to full test methods in accordance with the ISO/IEC 17025 certificate no. specified in the analysis report.

Method	Testing Lab	Method Descriptions
EN0021	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)
EN0027	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - CI (F)
EN0032	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - S2 (C, F)
EN0035	Bangkok	In-house method : STM 04-100 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (D)
EN0044	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B and part 4500 - O (G)
EN0048	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B
EN0093	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 F
EN0100	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C
EN0102	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D
MC6009	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6010	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 B
MC6012	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023. Part 9221 F
MC6043	Bangkok	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA, WEF, 24th ed., 2023. Part 9215 B



## Terms and Conditions

### GENERAL

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- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

- a) ALS will provide the Services by exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances.
- b) The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in ALS's standard testing methodology, the ALS Report and its contents. All data and ALS Reports relate to the sample tested only.
- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

### FEES AND PAYMENT

- a) For Clients with an approved credit account, payment terms are 30 days from the date of invoice. For all other Clients, payment is due on receipt of samples by ALS, unless negotiated otherwise. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.
- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
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- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
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- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2543358

Report Number : BK2543358-AA



TESTING  
No.0009

Sub-Matrix: WASTEWATER

Client Sample ID

น้ำทิ้งที่บ่อดักน้ำก่อนเข้าระบบ  
บำบัดน้ำเสีย

น้ำทิ้งที่ผ่านการบำบัดก่อน  
ระบายออกสู่ภายนอกโครงการ

----

(Matrix: WATER)

Sampling Date

Dec 09, 2025 04:15 PM

Dec 09, 2025 04:10 PM

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Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2543358-001	BK2543358-002	-----
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----

## Chemical Parameters

EN0044	Bangkok	BOD (5 days at 20°C)	----	2.0	mg/L	≤20	----	41.8	19.4	----
EN0048	Bangkok	Oil & Grease	----	3	mg/L	≤20	----	4	<3	----
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	5.5-9	----	7.4	7.4	----
EN0032	Bangkok	Sulfides	----	0.5	mg/L	≤1	----	5.6 *	<0.5 *	----
EN0035	Bangkok	Total Kjeldahl Nitrogen as N	0.15	1.0	mg/L	≤35	----	36.8	25.2	----

## Microbiological Parameters

MC6010	Bangkok	Total Coliforms	----	----	MPN/100mL	----	----	3300000	49000	----
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## Physical and Aggregate Properties

EN0093	Bangkok	Settleable Solids	----	0.1	mL/L/hr	----	----	0.2 *	<0.1 *	----
EN0100	Bangkok	Total Dissolved Solids at 180°C	----	5	mg/L	≤1000	----	236	212	----
EN0102	Bangkok	Total Suspended Solids	----	5	mg/L	≤30	----	30	14	----

## Terms and Conditions

### GENERAL

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- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
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- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.



# Analysis Report BK2543358

Report Number : BK2543358-AA



TESTING  
No.0009

Sub-Matrix: PROCESS WATER

Client Sample ID

(Matrix: WATER)

Sub-Matrix: PROCESS WATER							Client Sample ID	น้ำสระใหญ่	สระสเปา	----	
(Matrix: WATER)											
								Sampling Date	Dec 09, 2025 04:00 PM	Dec 09, 2025 03:57 PM	----
Method	Testing Lab	Analytes	LOD	LOQ	Unit	Guideline		BK2543358-003	BK2543358-004	-----	
						MNRE 2567 Type A	MOPH 1/2550	Result	Result	----	
Chemical Parameters											
EN0021	Bangkok	pH at 25°C	----	1.0	pH Unit	----	7.2-8.4	7.4 *	8.2 *	----	
EN0027	Bangkok	Residual Free Chlorine	----	0.1	mg/L	----	0.6-1	0.7 *	0.6 *	----	
Microbiological Parameters											
MC6009	Bangkok	Total Coliforms	----	----	MPN/100mL	----	<10	<1.1	<1.1	----	
MC6012	Bangkok	Escherichia coli	----	----	in 100mL	----	Not Detected	Not Detected	Not Detected	----	
MC6043	Bangkok	Standard Plate Count	----	----	CFU/mL	----	----	<1	<1	----	

Guideline: MNRE 2567 Type A: Building: Notification of The Ministry of Natural Resources and Environment on Effluent from building Type A

MOPH 1/2550: Recommendations of The Public Health Committee on Swimming Pool Operations

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

Key:

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

----- END OF REPORT -----

## Terms and Conditions

### GENERAL

- a) ALS will provide the Services described in the accompanying tender, quotation, or email to the Client, which together with these terms and conditions will hereafter be called the 'Agreement'.
- b) This Agreement will be binding on the Client from the date the Agreement is accepted by the Client in writing, through the placement of an order for, or receipt of samples for analysis based upon this Agreement.

### PROVISION OF SERVICES

- a) ALS will provide the Services by exercising the same degree of skill, care and diligence that would be exercised by professional service providers in similar circumstances.
- b) The Client acknowledges that it is the Client's sole responsibility to make its own assessment of the suitability for any purpose of the Services, detection limits and confidence intervals inherent in ALS's standard testing methodology, the ALS Report and its contents. All data and ALS Reports relate to the sample tested only.
- c) If the Client requires the Services to be performed by specific test method, or requires detection limits and/or confidence intervals different to those inherent in ALS's standard testing methodology, then the Client must advise ALS of such needs prior to submission of samples.
- d) The client must inform ALS prior to submitting samples should they require samples to be reported with Measurement of Uncertainty to meet with a certain regulatory compliance. ALS will not hold any obligation if this information is not communicated or disclosed to ALS prior to submission of samples.
- e) ALS may subcontract all or part of the Services and the Client consents to ALS disclosing all information (including Confidential Information) of the Client to that subcontractor necessary for the performance of the Service.
- f) ALS reserves the right to develop methods internally and automatically insource any subcontracted analytical services listed in this Agreement upon achieving equivalent LORs, NATA accreditation and service levels.

### FEES AND PAYMENT

- a) For Clients with an approved credit account, payment terms are 30 days from the date of invoice. For all other Clients, payment is due on receipt of samples by ALS, unless negotiated otherwise. Any such variance from the standard payment terms must be stipulated separately in writing in the Agreement.
- b) All prices quoted by ALS are exclusive of VAT unless stated otherwise. The Client must pay the amount of VAT specified in an invoice issued pursuant to A New Tax System (Value Added Tax) Act 2001.

### LIMITATION OF LIABILITY

- a) To the full extent permitted by law, ALS excludes all warranties, terms, conditions or undertakings (Terms), whether expressed or implied, in relation to the Services, the ALS Report, or its contents. Where any legislation implies any Terms in this Agreement that cannot be modified or excluded then, such Terms shall deem to be included. However, to the full extent permitted by law, ALS's liability to the Client for any breach of any Terms that cannot be excluded by law is limited at ALS's option to the re-performance of the Services or the refund of the fee for the Services.
- b) The Client hereby releases and indemnifies and shall continue to release and indemnify ALS, its officers, employees and agents from and against all actions, claims (actual or threatened), proceedings (including proceedings where ALS is joined pursuant to any proportionate liability regime, whether under common law or any federal, state, or territory legislation) or demands (including any costs and expenses in defending or servicing same) which may be brought against it or them, in respect of any loss (including Consequential Loss), death, injury, illness or damage to persons or property, and whether direct or indirect and in respect of any breach of any industrial or intellectual property rights, howsoever arising out of the use of, reliance on, or benefit of, the Services or any ALS Report, except to the extent that the loss, death, injury, illness or damage to persons or property was directly caused by the negligence, willful acts or omissions of ALS or its employees.
- c) Notwithstanding any other provision of the Agreement, and except to the extent that liability cannot be limited or excluded by law:
  - i) ALS will not be liable to the Client or any other person for any special, indirect or consequential loss, loss of profits, or economic loss, arising from the Client's use of, reliance on, or benefit of, the Services or any ALS Report;
  - ii) ALS's cumulative liability to the Client for any loss or damage whatsoever which arises under or in connection with this Agreement or the provision of Services (excluding loss or damage to real or personal property, or personal injury to persons), and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to the value of the Services provided; and
  - iii) ALS's cumulative liability to the Client for any loss or damage to real or personal property whatsoever which arises under or in connection with this Agreement or the provision of Services, and whether by way of an indemnity or statute, in tort (for negligence or otherwise), or on any other basis in law or equity, is limited to \$5 million in aggregate.

### CLIENTS OBLIGATIONS

- a) The Client will ensure that all personnel, information, samples, access to site facilities, assistance, records, documentation and facilities needed by ALS to perform the Services, are available when reasonably required by ALS.
- b) The Client will give written notice to ALS of all known safety or health hazards and special procedures applicable to the performance of the Services, and the safe handling, testing, storage, transport and disposal of samples submitted to ALS (including whether or not the disposal of samples may cause contamination) or the Client's facilities or infrastructure in which ALS is partly or wholly performing the Services. ALS may in its absolute discretion, refuse to provide part or all of the Services where it determines that the provision of part or all of the Services may pose a health or safety hazard.
- c) The Client must take all necessary steps to remove or remedy any known safety or health hazards, or any obstacles to or anything that is likely to interrupt the performance of the Services by ALS.

### INTELLECTUAL PROPERTY AND CONFIDENTIAL INFORMATION

- a) All ALS IP will remain the property of ALS. ALS grants to the Client a world-wide, non-exclusive, royalty free license to use ALS IP for the purpose agreed to between the Client and ALS to the extent that it is needed for the enjoyment and benefit of the Services.

- b) Neither ALS nor the Client will disclose Confidential Information of the other party to any third party without the prior written consent of the other party, unless required by law or the rules of a relevant stock exchange. ALS and the Client will only use Confidential Information of the other party for the purpose of the supply of the Services.
- c) Any report, findings, results, statement, certification issued by ALS (**ALS Report**) is issued on the basis of testing of samples or materials, information, or documents provided by, or on behalf of, the Client. The Client will indemnify and hold harmless ALS, its officers, employees, agents and subcontractors for any claim whatsoever in relation to any ALS Report arising from unclear, erroneous, incomplete, misleading or false information provided to ALS; or arising from any incorrect or defective materials or samples provided to ALS.
- d) Each ALS Report is:
  - i) issued using detection limits and confidence intervals inherent in ALS's testing methodology;
  - ii) contains ALS's results and opinions (if provided) on those samples or specific materials only;
  - iii) solely for the benefit of the Client, its officers and employees; and
  - iv) prepared at the request of the Client for the purpose agreed between the Client and ALS, and the Client may disclose the report to a third party for that purpose only, but ALS does not accept any responsibility or liability (including, without limitation, liability for negligence) to that third party.
- e) The Client indemnifies ALS, its directors, employees, agents, consultants, contractors, successors in title and assigns against any claim made against any or all of them by third parties arising out of either the disclosure of any ALS Report, directly or indirectly by the Client, to a third party; or any reproduction or publication of an extract of any ALS Report.
- f) The Client acknowledges and agrees that any action, inaction, or decision of the Client in response to the ALS Report will be determined by the Client. Neither ALS nor any of its officers, employees, agents, or subcontractors will be liable to the Client or any third party for any action or inaction of the Client in response to any ALS Report.

### TERMINATION

- a) ALS may suspend or terminate its obligations under this Agreement if (a) monies payable to ALS by the client are outstanding 60 days or more (unless otherwise agreed) after the date of invoice, (b) other substantial breach by the Client of their obligations under the Agreement, which breach is not remedied within 30 days of written notice the breach to be remedied, or (c) by giving the Client 60 days written notice of ALS's intention to terminate.
- b) The Client may terminate its obligations under this Agreement in the event of a substantial breach by ALS of its obligations under the Agreement, which breach has not been remedied within 30 days of written notice to ALS.
- c) If ALS, acting reasonably, suspects that the Client is insolvent or is having difficulties paying its debts as and when they become due, or the Client is insolvent, ALS may give written notice to the Client of ALS's intention to immediately suspend or terminate its obligations under this Agreement.
- d) In the event of termination, ALS is entitled to be paid for all work performed before the date of termination and for any unavoidable commitments entered into by ALS before the date of termination.

### MISCELLANEOUS

- a) Any provision of this Agreement that is illegal, invalid or unenforceable will be severed to the extent that it is illegal, invalid or unenforceable, with the remainder of the Agreement continuing in full force.
- b) This Agreement is governed by the law of the state or territory in which the Services are provided, and each party irrevocably and unconditionally submits to the non-exclusive jurisdiction of the courts of that place.

### DEFINITIONS

- a) **ALS** means ALS Laboratory Group (Thailand) Co., Ltd. Registration No. 0105540004859, and each of its related bodies corporate (as defined in the Civil and Commercial Code).
- b) **ALS IP** means all intellectual property and proprietary rights (whether registered or unregistered) owned by ALS prior to performance of the Services, developed by ALS in performance of the Services, or developed by ALS outside of, or after, performance of the Services, and without limitation includes business names, trade or service marks, any right to have information (including confidential information) kept confidential, patents, patent applications, drawings, discoveries, inventions, improvements, trade secrets, technical data, formulae, databases, know-how, logos, designs, design rights, copyright and similar industrial or intellectual property rights.
- c) **Client** means the entity to which the accompanying tender, quotation, letter, fax or email is addressed.
- d) **Confidential Information** means all information in relation to a disclosing party, its business, operations, products, processes, customers, suppliers or contractors which is or might reasonably be considered by the disclosing party to be confidential, including all technical data, formulae, specifications, diagrams, plans, drawings, sketches, designs, business plans and reports, business methods and systems, business records, production information, unpublished financial accounts and reports, discount and supply agreements, subcontractor lists, customer lists, except to the extent that such information is lawfully in the public domain.
- e) **Services** means the services described in the accompanying tender, quotation, letter, fax or email.
- f) **Consequential Loss** means loss or damage from a breach of contract, tort (including negligence), under statute or any other basis in law or equity including, but without limitation loss of profits, loss of revenue, loss of production, loss or denial of opportunity, loss of access to markets, loss of goodwill, loss of business reputation, future reputation or publicity, damage to credit rating, loss of use, and indirect, remote, abnormal or unforeseeable loss, or any similar loss whether or not in the reasonable contemplation of the parties at the time of this Agreement.

# ภาคผนวก ง

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ใบรับรองการสอบเทียบเครื่องมือ



right solutions.  
right partner.

รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Water Lab	BOD	DO Meter	BKK_EN0205	25-Jul-25	25-Jan-27	18
Water Lab	BOD	Incubator	BKK_EN0304	4-Mar-25	4-Mar-26	12
Water Lab	BOD	Burette	BKK_EN0422	3-Sep-25	3-Sep-26	12
Water Lab	Total Coliform	Autoclave	BKK_ML0041	4-Mar-25	4-Sep-26	18
Water Lab	Total Coliform	Incubator	BKK_ML0011	8-Oct-25	8-Apr-27	18
Water Lab	Total Coliform	Hot Air Oven	BKK_ML0013	9-Oct-25	9-Apr-27	18
Water Lab	Oil & Grease	Electronic Top-Loading Balance	BKK_EN0003	17-Jul-25	17-Jul-26	12
Water Lab	Oil & Grease	Water Bath	BKK_EN0439	9-Oct-25	9-Oct-26	12
Water Lab	pH at 25 °C	pH meter	BKK_EN0342	9-Oct-25	9-Oct-26	12
Water Lab	Settleable Solids	Chamber (Cooling Room)	BKK_EN0167	4-Jun-25	4-Dec-26	18
Water Lab	Sulfide	Burette	BKK_EN0422	3-Sep-25	3-Sep-26	12
Water Lab	Sulfide	Chamber (Cooling Room)	BKK_EN0167	4-Jun-25	4-Dec-26	18
Water Lab	Total Dissolved Solids 180°C	Electronic Top-Loading Balance	BKK_EN0003	17-Jul-25	17-Jul-26	12
Water Lab	Total Dissolved Solids 180°C	Oven	BKK_EN0425	6-Oct-25	6-Oct-26	12
Water Lab	Total Kjeldahl Nitrogen	Digestion Unit	BKK_EN0366	9-Apr-25	9-Apr-26	12
Water Lab	Total Kjeldahl Nitrogen	Discrete analyzer	BKK_EN0438	3-Sep-25	3-Sep-26	12
Water Lab	Total Suspended Solids	Electronic Top-Loading Balance	BKK_EN0003	17-Jul-25	17-Jul-26	12
Water Lab	Total Suspended Solids	Oven	BKK_EN0425	6-Oct-25	6-Oct-26	12



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3 : EQUIPMENT CALIBRATION AND TESTING SERVICES

534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250

TEL. 0-2717-3000 FAX. 0-2719-9484

## Certificate of Testing

Cert.No.: 25TW145

Page.: 1 of 2

Equipment : DO Meter  
Manufacturer : YSI  
Model : 5100  
Serial No. : 15L103204  
ID No. : BKK\_EN0205  
Received Date : 24 July 2025  
Test Date : 25 July 2025  
Reference : 2507-0836DSC-1  
Submitted by :

ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Laboratory Condition : Temperature (  $25 \pm 5$  ) °C  
Humidity (  $50 \pm 20$  ) %  
Test Procedure : In - house method : CP-CH9  
by Comparison Technique with Azide Modification Method

Tested by : Walalak Sirithean

Approved by :

Saithip

Approved Signatory

( ) Chakrit Waewwanjua  
( ) Ponpan Paipim  
(✓) Saithip Meangmai

Issue Date : 25 July 2025

REVIEW BY *Linda K*

APPROVED BY *Siriluk P*

NEXT CAL DATE **25/01/27**





Cert.No.: 25TW145

Page.: 2 of 2

**Condition of this result of calibration**

1. Reference Standard Instruments :

This measurement result is traceable to the International System of Unit through the reference standards laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan).

<u>Instruments</u>	<u>ID No.</u>	<u>Certificate No.</u>	<u>Due Date</u>
1. Burette	130BU10	25CG1126	18 Mar 2027
2. Balance	140RC001	24MM601/1	16 Sep 2025

2. Standard Material :-

<u>Material</u>	<u>Manufacturer</u>	<u>Lot.No.</u>	<u>Assay</u>
Sodium Thiosulfate 5-Hydrate AR	KEMAUS	2203162447	99.6%

**Result :** Dissolved Oxygen Meter Adjustment With Air 100 %

Dissolved Oxygen Probe No.: 23L100673

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.20	8.20	0.0055

This report was certified only for the instrument we tested. It is allowable to use for study  
Intend to use for advertising and referral purpose is prohibited. This report may not be reproduced  
other in full, without written approval of the laboratory

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TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert. No.: 25LM122

Page.: 1 of 2

**Equipment :** DO Meter with Sensor

**Manufacturer :** YSI

**Model :** 5100

**Serial No. :** 15L103204

**ID No. :** BKK\_EN0205

**Submitted by :** ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

**Location :** TPA On Site Calibration Laboratory

**Received Order :** 24 July 2025

**Calibrated Date :** 25 July 2025

**Ambient Temperature :** ( 26 ± 10 ) °C

**Relative Humidity :** ( 50 ± 30 ) %

**AC Line Voltage :** ( 220 ± 22 ) V

**Calibrated by :** Warakorn Lerngagtrakul

**Approved by :**

*Kunchit*

Approved Signatory

- ( ) Chakrit Waewwanjua  
( ) Suwit Imjai  
(✓) Kunchit Promprat

**Issue Date :** 31 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 3 : Equipment Calibration and Testing Services.





**Equipment :** DO Meter with Sensor  
**Condition As-Received :** Used Item  
**Reference :** 2507-0836DSC-2

**Cert. No.:** 25LM122  
**Page.:** 2 of 2

**Procedure Used :-**

Calibration were 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:-

<u>Instrument</u>	<u>Serial No.</u>	<u>Cert. No.</u>	<u>Traceable</u>	<u>Due Date</u>
1) Digital Thermometer	2188080	2411022	TPA	17 Sep 2025

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 :-** ( \* ) Without Adjustment

**Function :** Temperature measurement.

This instrument was connected with temperature sensor, S/N.: 23L100673

<u>Calibration Point</u> ( °C )	<u>Immersion Depth</u> ( mm )	<u>Standard Temperature</u> ( °C )	<u>UUC* Reading</u> ( °C )	<u>Error</u> ( °C )	<u>Uncertainty</u> ( ± °C )	<u>Coverage Factor</u> <i>k</i>
20.00	80	20.003	19.74	-0.263	0.15	2.00

**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 %.

-o0o-



# Metrology

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110, Thailand.

Saraburi Tel : +66 3627 3096 Fax : +66 3627 3100

Bangkok Tel : +668 9205 6851 , +669 8247 2360

Website : www.scieco.co.th E-Mail : calibrate@scg.com



Certificate No. T250356

Page 1 of 4

## Certificate of Calibration

**Equipment** : Chamber ( Incubator )

**Manufacturer** : Memmert

**Model** : ICP 750

**Serial No.** : F819.0021

**Customer Code** : BKK\_EN0304

**ID No.** : T9572A4

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

104 Phatthanakan 40, Phatthanakan Rd.,

Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250

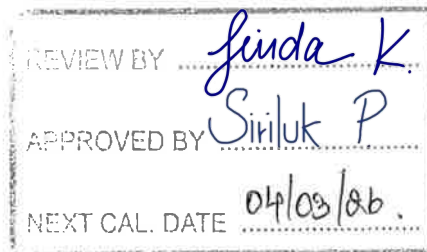
**Customer Location** : Wet Chemistry Lab 2

**Date of Receipt** : 26 February 2025

**Calibrated By** : Atiphong Rongrat ( Technician )

**Approved By** : Boonchai Suriyawong / Boonchai Suriyawong (Site Calibration Manager)

**Date of Issue** : 17 MAR 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 Metrology.

Certificate No. T250356

Page 2 of 4

## Calibration Report

**Equipment** : Chamber ( Incubator )  
**Date of Calibration** : 4 March 2025  
**Environment** : Temperature : 24.5-24.7 °C  
Line Voltage : 221.4-224.7 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by insert 12 resistance thermometer detectors into its chamber , the other one resistance thermometer detector use for ambient temperature measurement . The calibration was done in according to WI-T20 ( based on ASTM E145-94 ( Reapproved 2019) and AS2853-1986 ).

All data show 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 ohm	31-(CH1-10)	T240399	16 March 2025
RTD	100 ohm	32-(CH1-10)	T240399	16 March 2025
DATA LOGGER	34970A	T193	T240399	16 March 2025

### 3. This certificate is traceable to :

National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244.)

### 4. Condition of calibrated item : good

#### Equipment Description :

Time Constant 2 Hour 10 Minute At 20 °C  
Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available

### 5. Adjustment :

( X ) without adjustment

( ) after adjustment

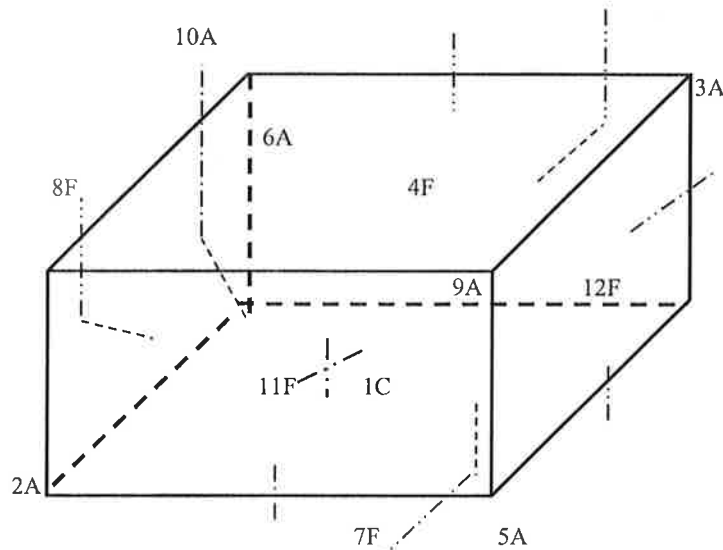
Approved By. \_\_\_\_\_



Certificate No. T250356

Page 3 of 4

## Calibration Report



C = Centre , F = Centre of Face , A = Corner , E = Centre of Edge

1C	=	31-CH1
2A	=	31-CH2
3A	=	31-CH3
4F	=	31-CH4
5A	=	31-CH5
6A	=	31-CH6
7F	=	31-CH7
8F	=	31-CH8
9A	=	31-CH9
10A	=	31-CH10
11F	=	32-CH1
12F	=	32-CH2

Approved By.



Certificate No. T250356

Page 4 of 4

## Calibration Report

### Measurement Results :

Calibration Point	Average Standard Reading at each position (°C)											
	31-CH1	31-CH2	31-CH3	31-CH4	31-CH5	31-CH6	31-CH7	31-CH8	31-CH9	31-CH10	32-CH1	32-CH2
20	20.02	20.42	19.96	20.23	19.83	19.44	19.71	20.01	20.06	20.04	20.13	19.98

Chamber ( Incubator )			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (± °C)	Uniformity (°C)	Uncertainty (± °C)	Coverage Factor <i>k</i>
	Min , Max	Average					
20.0	-	20.0	19.99	0.10	0.43	0.38	2.02

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k* which for a t-distribution, providing a level of confidence of approximately 95 % .

End of Certificate

Approved By. 





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert.No.: 25CG3385

Page.: 1 of 2

Equipment :

Burette

Capacity :

50 mL

Serial No. :

-

ID. No. :

BKK\_EN0422

Manufacturer :

Witeg

Made in :

Germany

Submitted by :

ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Ambient Temperature :

(20 ± 2.5) °C

Relative Humidity :

(50 ± 10) %

Barometric Pressure :

753 mmHg

Calibration Procedure :

ASTM E 542 - 01

Calibrated by :

Srisuda Khamtha

Approved by :

Approved Signatory

( ) Ponpan Paipim

(✓) Chakrit Waewwanjua

Issue Date :

3 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.





**Equipment :** Burette  
**Received Date :** 1 September 2025  
**Condition As-Received :** Used Item  
**Calibration Date :** 3 September 2025  
**Reference :** 2509-0049DSC-1

**Cert.No.:** 25CG3385  
**Page.:** 2 of 2

**Condition of this result of calibration**

1. Reference Standard Instruments :

<u>Instruments</u>	<u>Model</u>	<u>Serial No.</u>	<u>ID. No.</u>	<u>Certificate No.</u>	<u>Traceability</u>	<u>Due date</u>
1) Balance	MS204TS	C226356983	140RC010	24MM603	TPA	10 Oct 2025
2) Data Logger	HL-20D	20683159	140EC012	24H2129	TPA	15 Oct 2025
3) Digital Thermometer	HH376	230806555	140EC013	25I1740	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. True value is converted to true volume at the standard temperature of 20 °C

**Calibration result :**

<b>Nominal capacity ( mL )</b>	<b>Reading ( mL )</b>	<b>Uncertainty ( ± mL )</b>	<b>k Factor</b>
10	9.9941	0.0082	2.00
25	24.9804	0.0087	2.00
50	49.9819	0.010	2.00

**Remark** mL = cm<sup>3</sup>

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 %.

-o0o-



# Metrology

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110, Thailand.

Saraburi Tel : +66 3627 3096 Fax : +66 3627 3100

Bangkok Tel : +668 9205 6851 , +669 8247 2360  
Website : www.scieco.co.th E-Mail : calibrate@scg.com



Certificate No. T250353

Page 1 of 4

## Certificate of Calibration

**Equipment** : Autoclave

**Manufacturer** : TOMY

**Model** : SX-700

**Serial No.** : 48134190

**Customer Code** : BKK\_ML0041

**ID No.** : T7725A3


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

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,  
Khet Suan Luang, Bangkok 10250


**Customer Location** : Washing Room

**Date of Receipt** : 26 February 2025

**Calibrated By** : Boonchai Suriyawong ( Site Calibration Manager )

**Approved By** :  / Sujjar Naknakred (Site Calibration Manager)

**Date of Issue** : 10 MAR 2025

REVIEW BY	Sithichok
APPROVED BY	
NEXT CAL. DATE	04/09/26

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 Metrology.

Certificate No. T250353

Page 2 of 4

## Calibration Report

**Equipment** : Autoclave  
**Date of Calibration** : 4 March 2025  
**Environment** : Temperature : 22.2-25.4 °C  
Line Voltage : 221.1-224.7 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by insert 3 standard temperature recorder into its chamber and test according to WI-T23 inhouse method.( based on BS 2646-1 : 2021)

All data show 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	Standard No.	Certificate No.	Due Date
1. Temperature recorder	RTD	T210	T242028	11 December 2025
2. Temperature recorder	RTD	T211	T242029	11 December 2025
3. Temperature recorder	RTD	T212	T242030	11 December 2025

3. This certificate is traceable to :

National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244.)

4. Condition of calibrated item : good

Equipment Description :

Pressure Indicator 0.11-0.12 MPa At 121 °C Holding time 20 minute

5. Adjustment :

( X ) without adjustment

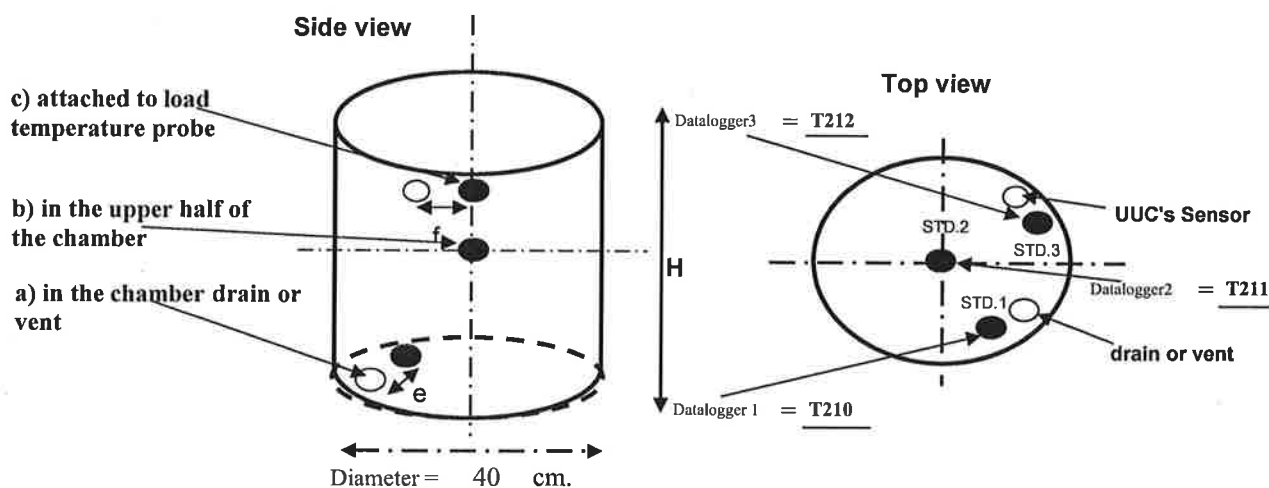
( ) after adjustment

Approved By. 

Certificate No. T250353

Page 3 of 4

## Calibration Report



### Remark :

Size of Installed Standard sensor STD.1 : Distance the chamber drain or vent  $e \leq 10$  cm. (less than or be equal to 10 cm.)

Size of Installed Standard sensor STD.2 : Geometric Center (upper half of the chamber)

Size of Installed Standard sensor STD.3 : Distance UUC's Sensor  $f = 2$  cm.

### Measurement Results :

Calibration Point	Average Standard Reading at each position (°C)		
	T210	T211	T212
121	121.2	121.1	121.1

Autoclave			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (±°C)	Uniformity (±°C)	Uncertainty (±°C)	Coverage Factor $k$
	Min , Max	Average					
121	-	121	121.2	0.1	0.1	0.65	2.00

\* The quoted uncertainty exclude "uniformity"

The calibration result apply only the above calibrated item.

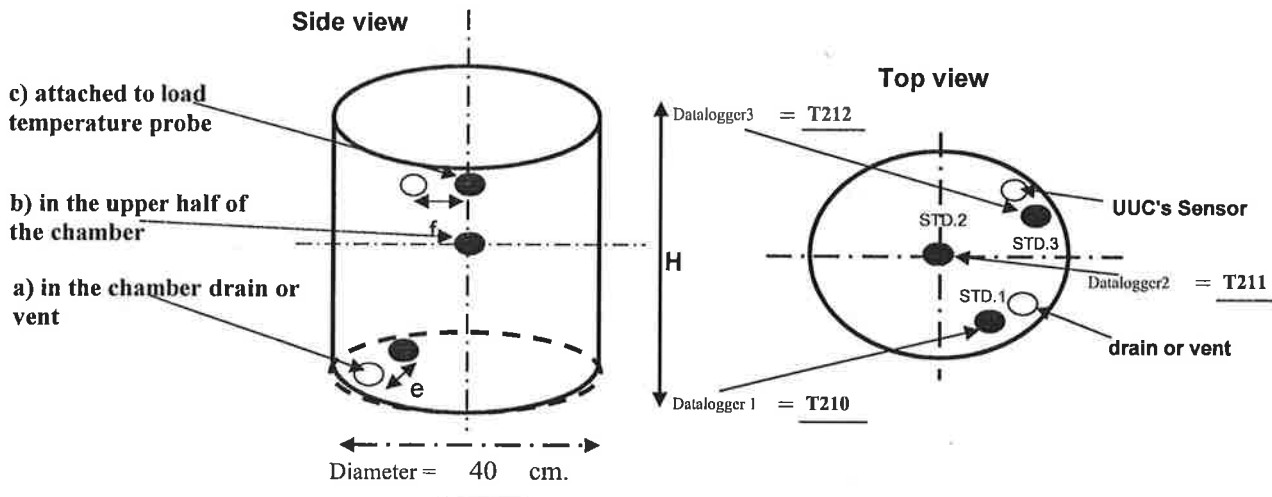
The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k$  which for a t-distribution, providing a level of confidence of approximately 95 % .

End of Certificate

Approved By. \_\_\_\_\_

## Calibration Report



### Remark :

Size of Installed Standard sensor STD.1 : Distance the chamber drain or vent  $e \leq 10$  cm. (less than or be equal to 10 cm.)

Size of Installed Standard sensor STD.2 : Geometric Center (upper half of the chamber)

Size of Installed Standard sensor STD.3 : Distance UUC's Sensor  $f = 2$  cm.

### Measurement Results :

Calibration Point	Average Standard Reading at each position (°C)		
	T210	T211	T212
121	121.18	121.12	121.13

Autoclave			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (± °C)	Uniformity (± °C)	Uncertainty (± °C)	Coverage Factor $k$
	Min , Max	Average					
121	-	121	121.16	0.10	0.10	0.65	2.00

\* The quoted uncertainty exclude "uniformity"

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k$  which for a t-distribution, providing a level of confidence of approximately 95 % .

End of Certificate

Approved By. 





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert. No.: 25TM1399

Page : 1 of 3

Equipment : Low Temp. Incubator

Manufacturer : Shel Lab

Model : 2020-2E

Serial No. : 0601299

ID No. : BKK\_ML0011

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Location : Incubation & Microbiological Reading

Received Order : 08 October 2025

Calibration Date : 08 October 2025

Ambient Temperature : (  $26 \pm 10$  ) °C

Relative Humidity : (  $50 \pm 30$  ) %

AC Line Voltage : (  $220 \pm 22$  ) V

Calibrated by : Krisda Malee

Approved by :

*Kunchit*

Approved Signatory

( ) Chakrit Waewwanjua

( ) Suwit Imjai

( ) Kunchit Promprat

Issue Date : 28 October 2025

REVIEW BY *Sithichok T.*

APPROVED BY *[Signature]*

NEXT CAL DATE *08/04/27*

**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 :** Low Temp. Incubator  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-2

**Cert. No.:** 25TM1399

**Page :** 2 of 3

**Procedure Used :-**

Calibration were conducted using calibration procedure CP-OT02 based on TLAS G-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:-

<u>Instrument</u>	<u>Serial No.</u>	<u>Cert. No.</u>	<u>Traceable</u>	<u>Due Date</u>
1 ) Data Acquisition	MY44073381	25LM82	TPA	17 May 2026

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

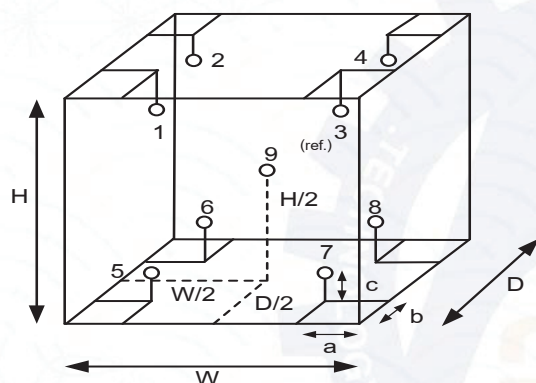
3. This measurement result is traceable to the International System of Unit maintained through :

**Remark :** TPA : Technology Promotion Association ( Thailand - Japan )

**Result of Calibration :-** ( \* ) Without Adjustment

**Function of UUC\* :** Temperature Source

**Fresh air setting :** Close



Environment during calibration		
	Beginning	Finished
Temp. ( °C )	24	26
REL.Humid. ( % )	54	51
AC Supply ( Volt )	220	221

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

**Probe Installation Details :**

a = 10 cm  
b = 10 cm  
c = 10 cm

**Dimension of Chamber :**

D = 0.55 m  
W = 0.69 m  
H = 1.2 m  
Capacity = 0.46 m<sup>3</sup>





**Equipment :** Low Temp. Incubator  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-2  
**Result of Calibration :-** ( \* ) Without Adjustment  
**Function of UUC\* :** Temperature Source  
**Fresh air setting :** Close

**Cert. No.:** 25TM1399

**Page :** 3 of 3

Calibration Point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Temperature stability ( ± °C )	Temperature uniformity ( °C )	Overall Variation ( °C )	Coverage Factor <i>k</i>
25.0	25.0	25.0	0.040	0.64	0.76	2

Calibration Point ( °C )	Measured Temperature ( °C )									Uncertainty  ( ± °C )
	Position									
	1	2	3	4	5	6	7	8	9 (ref.)	
25.0	25.175	25.219	25.170	25.162	24.745	24.530	24.994	25.005	25.132	0.30

**Average\* :** The average of 30 values in each position.

**Temperature stability :** One-half of the greatest maximum difference of measured temperature at any one sensor.

**Temperature uniformity :** The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are 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\* :** 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 %.

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TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert. No.: 25TM525

Page : 1 of 3

Equipment : Hot Air Oven  
Manufacturer : Binder  
Model : ED 240/E2  
Serial No. : 00-15533  
ID No. : BKK\_ML0013

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand  
Location : Media Preparation Room

Received Order : 08 October 2025  
Calibration Date : 09 October 2025  
Ambient Temperature :  $(26 \pm 10) ^\circ\text{C}$   
Relative Humidity :  $(50 \pm 30) \%$   
AC Line Voltage :  $(220 \pm 22) \text{ V}$

Calibrated by : Uthen Kankawi

Approved by :

Kunchit

Approved Signatory

- ( ) Chakrit Waewwanjua  
( ) Suwit Imjai  
(✓) Kunchit Promprat

Issue Date : 16 October 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.

REVIEW BY .....Sithichok T.....

APPROVED BY ..........

NEXT CAL DATE.....09/04/27.....



**Equipment :** Hot Air Oven  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-3

**Cert. No.:** 25TM525  
**Page :** 2 of 3

**Procedure Used :-**

Calibration were conducted using calibration procedure CP-OT02 based on TLAS G-20 according to direct measurement method with Data Acquisition which connected with Thermocouple Type T.

The temperature scale used was based on ITS-90.

**Condition of this result of calibration**

1. Reference standard instrument:-

<u>Instrument</u>	<u>Serial No.</u>	<u>Cert. No.</u>	<u>Traceable</u>	<u>Due Date</u>
1 ) Data Acquisition	MY59003411	24LM192	TPA	24 Dec 2025

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

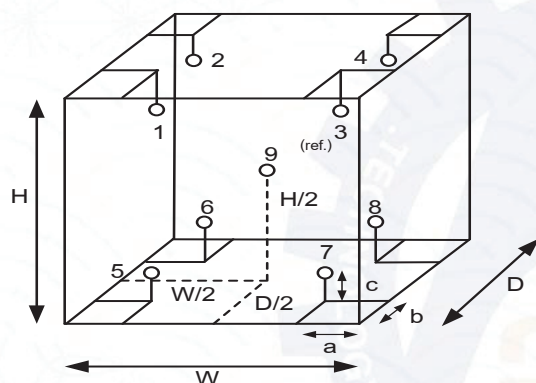
3. This measurement result is traceable to the International System of Unit maintained through :

**Remark :** TPA : Technology Promotion Association ( Thailand - Japan )

**Result of Calibration :-** ( \* ) Without Adjustment

**Function of UUC\* :** Temperature Source

**Fresh air setting :** Close



Environment during calibration		
	Beginning	Finished
Temp. ( °C )	23	24
REL.Humid. ( % )	54	56
AC Supply ( Volt )	220	221

Position :	Ref. Std. ID No.:
1	23-20TC-01
2	23-20TC-02
3	23-20TC-03
4	23-20TC-04
5	23-20TC-05
6	23-20TC-06
7	23-20TC-07
8	23-20TC-08
9 (ref.)	23-20TC-09

**Probe Installation Details :**

a = 5.0 cm  
b = 5.0 cm  
c = 5.0 cm

**Dimension of Chamber :**

D = 0.50 m  
W = 0.80 m  
H = 0.60 m  
Capacity = 0.24 m<sup>3</sup>





**Equipment :** Hot Air Oven  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-3  
**Result of Calibration :-** ( \* ) Without Adjustment  
**Function of UUC\* :** Temperature Source  
**Fresh air setting :** Close

**Cert. No.:** 25TM525

**Page :** 3 of 3

Calibration Point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Temperature stability ( ± °C )	Temperature uniformity ( °C )	Overall Variation ( °C )	Coverage Factor <i>k</i>
170	170	170	0.45	1.3	2.3	2

Calibration Point ( °C )	Measured Temperature ( °C )									Uncertainty  ( ± °C )
	Position									
	1	2	3	4	5	6	7	8	9 (ref.)	
170	169.588	170.427	168.486	168.900	169.725	169.499	168.946	169.327	169.529	1.3

**Average\* :** The average of 30 values in each position.

**Temperature stability :** One-half of the greatest maximum difference of measured temperature at any one sensor.

**Temperature uniformity :** The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are 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\* :** 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 %.

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Accredited by

NSC-TISI-TIS 17025

Calibration 0426



NSC-TISI-TIS 17025

CALIBRATION 0426

## Calibration certificate

Calibration Certificate No. 25BCI0265

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	MSE224S-100-DU	This certificate was prepared by Sartorius Corporation in accordance to the current ISO/IEC 17025:2017 standard and Sartorius Work Instruction (Method) SOP WI 08.
Serial   QM Ident. no.	27405555   BKK_EN0003	This certificate relate and apply this equipment only.
Customer	ALS Laboratory Group (Thailand)Co., Ltd.  104 Phatthanakarn 40,Phattanakarn Rd.,Khwaeng Phatthanakarn ,Khet Suan Luang,Bangkok 10250	<div>REVIEW BY <i>Linda K</i></div> <div>APPROVED BY <i>Siriluk P</i></div> <div>NEXT CAL DATE <u>17/07/26</u></div>
Order no.	265054	
Number of pages	4	
Date of calibration	17 Jul 2025	

This calibration certificate may not be reproduced other than in full except with the permission of NSC-TISI-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 of issue	17 Jul 2025	Approval of the Calibration Certificate	Person in charge
		Mr. Chonchai Inthana	Chonchai Inthana

Calibration object

Single range instrument

Model	MSE224S-100-DU
Serial Number	27405555
QM Ident. no   Inventory no.	BKK_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   Cost center	ENVI Department   ---
Building   Floor	---   1st Floor.
Room	Laboratory 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	Testo 174(Traceable to Si unit through ENTECH)	11 Nov 2025
Test weight set OIML R111 E2	Certificate No.M2308197S ,E2(Traceable to SI unit through TCS)	23 Aug 2025

Adjustment Status

The measuring device was internally adjusted before the calibration.

Environmental and measuring conditions

Date of calibration	17 Jul 2025
Temperature at place of calibration   Temp. diff. <i>T</i> <sub>weights</sub> - <i>T</i> <sub>place</sub>	22.5 °C   0.7 K
Measuring conditions	The installation site is suitable. The device is level. Balance was loaded up to Max before test.
Comments	Humidity 58.0 %RH.

Measurement results | Measurement uncertainties

Repeatability

Test load (nominal): 10 g   200 g		
	10 g	200 g
1	10.0000 g	200.0000 g
2	10.0000 g	199.9999 g
3	10.0000 g	200.0000 g
4	10.0000 g	200.0000 g
5	10.0001 g	199.9999 g
6	10.0000 g	200.0000 g
7	10.0000 g	200.0000 g
8	10.0001 g	200.0000 g
9	10.0000 g	200.0000 g
10	10.0000 g	199.9999 g
	<i>s</i> = 0.00004 g	<i>s</i> = 0.00005 g

Eccentricity

Test load (nominal): 100 g	
Center	100.0000 g
Front left	100.0001 g
Back left	100.0000 g
Back right	100.0001 g
Front right	100.0001 g
Maximum deviation from centric loading indication $ \Delta_{ecc} _{max}$ = 0.0001 g	

Error of indication

Testload	Indication	Error	Expansion factor	Uncertainty	Uncertainty relative
<i>L</i>	<i>I</i>	<i>E</i>	<i>k</i>	<i>U</i> ( <i>E</i> )	<i>U</i> <sub>rel</sub> ( <i>E</i> )
0.0100 g	0.0100 g	0.0000 g	2.00	0.00012 g	1.2 %
0.1000 g	0.1000 g	0.0000 g	2.00	0.00013 g	0.13 %
1.0000 g	1.0000 g	0.0000 g	2.00	0.00013 g	0.013 %
2.0000 g	2.0000 g	0.0000 g	2.00	0.00013 g	0.0065 %
5.0000 g	5.0000 g	0.0000 g	2.00	0.00013 g	0.0026 %
10.0000 g	10.0000 g	0.0000 g	2.00	0.00013 g	0.0013 %
20.0000 g	20.0000 g	0.0000 g	2.00	0.00014 g	0.00068 %
50.0000 g	50.0000 g	0.0000 g	2.00	0.00015 g	0.00029 %
100.0000 g	100.0000 g	0.0000 g	2.00	0.00018 g	0.00018 %
200.0000 g	200.0000 g	0.0000 g	2.00	0.00028 g	0.00014 %
220.0000 g	220.0001 g	0.0001 g	2.00	0.00032 g	0.00015 %
Maximum error of indication		$ E _{max}$ = 0.0001 g			

*U*<sub>rel</sub>(*E*) is the quotient of *U*(*E*) and test load *L*. The uncertainty of measurement *U*(*E*) is valid only if error *E* is considered. You will find reference notes on the uncertainty of measurement in use under: Appendix to the calibration certificate | Interpretation of measurement results.  
Reference note: The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the documented Expansion factor, determined in accordance with the European Calibration Guideline EURAMET cg-18, V4.0. There is a 95 % probability that the value of the measurand will be in the assigned value range.

End of calibration certificate

# Uncertainty of measurement in use

Device adjusted before measurement	Yes
Temperature deviation considered	1.5 K (isoCAL active)
Temperature coefficient considered	$1 \cdot 10^{-6}/\text{K}$

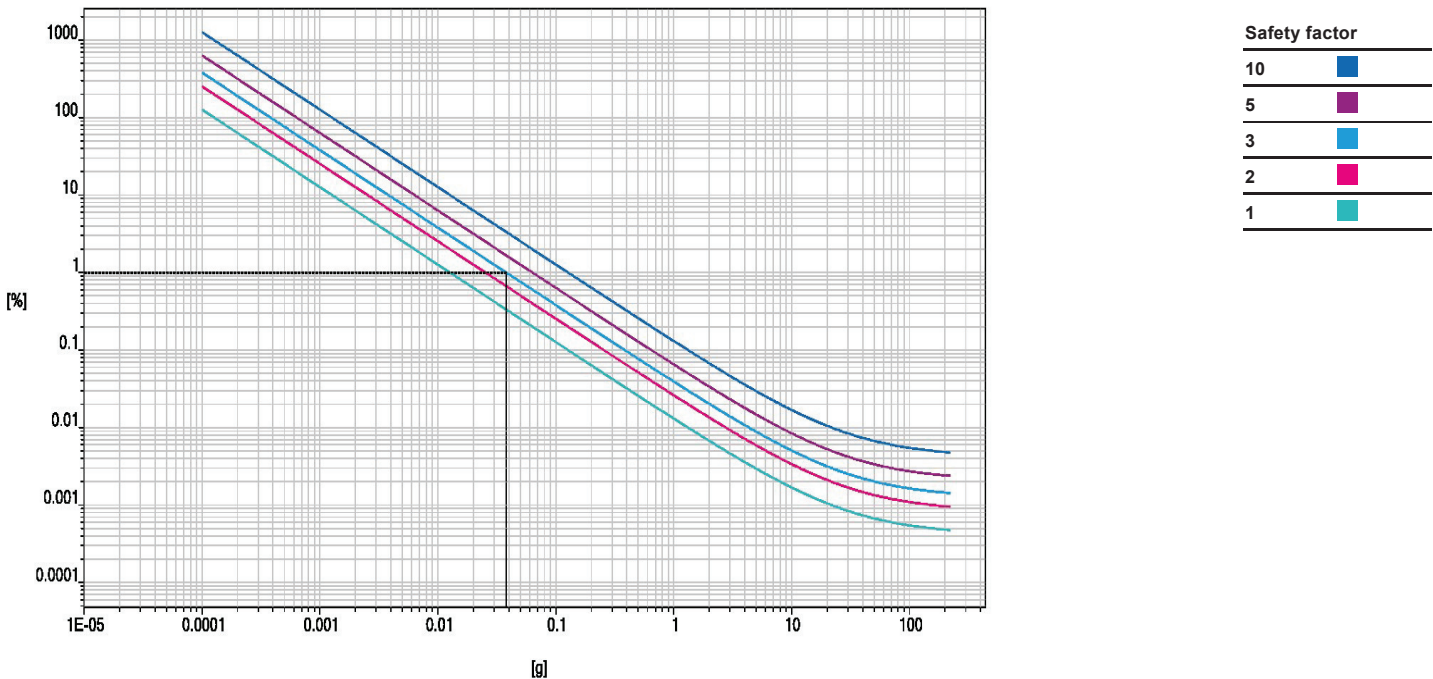
Uncertainty of the weighing result  $U_{gl}(W)$

$U_{gl}(W) = 0.00013 \text{ g} + 4.19 \cdot 10^{-6} \cdot R$

Reference note: The current uncertainty of measurement is calculated by entering of the reading  $R$  into this formula. In relation to this, there is no need for a correction of the indication error. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied with an Expansion factor of 2, determined in accordance with the European Calibration Guideline EURAMET cg-18, V4.0. There is a 95 % probability that the value of the measurand will be in the assigned value range.

Indication in % from max load	Net indication $R$	Uncertainty $U_{gl}(W)$	Uncertainty relative $U_{gl}(W)_{rel}$
1 %	2.2000 g	0.00014 g	0.0063 %
25 %	55.0000 g	0.00036 g	0.00066 %
50 %	110.0000 g	0.00059 g	0.00054 %
75 %	165.0000 g	0.00082 g	0.00050 %
100 %	220.0000 g	0.0011 g	0.00048 %

Graphic realization of the relative uncertainty of measurement | process accuracy



Displayed example

Process accuracy	1.00 %
Safety factor	3
Minimum sample weight	0.0380 g





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534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert. No.: 25TM528

Page : 1 of 3

Equipment : Water Bath  
Manufacturer : Memmert  
Model : WNE 29  
Serial No. : L622.0282  
ID No. : BKK\_EN0439

REVIEW BY

*finda k*

APPROVED BY

*Siriluk P*

NEXT CAL DATE

09/10/26

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Location : Organic Preparation Lab

Received Order : 08 October 2025

Calibration Date : 09 October 2025

Ambient Temperature : ( 26 ± 10 ) °C

Relative Humidity : ( 50 ± 30 ) %

AC Line Voltage : ( 220 ± 22 ) V

Calibrated by : Kunchit Promprat

*S. Yuenit*

Approved by :

Approved Signatory

( ) Chakrit Waewwanjua

( ) Ponpan Paipim

(✓) Suwit Imjai

Issue Date : 28 October 2025

**The Uncertainties are for a confidence probability of approximately 95%**

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Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.





**Equipment :** Water Bath  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-13

**Cert. No.:** 25TM528

**Page :** 2 of 3

**Procedure Used :-**

Calibration were conducted using in-house calibration procedure CP-OT04 Based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer ( IPRT ).

The temperature scale used was based on ITS-90.

**Condition of this result of calibration**

1. Reference standard instrument:-

<u>Instrument</u>	<u>Serial No.</u>	<u>Cert. No.</u>	<u>Traceable</u>	<u>Due Date</u>
1 ) Data Acquisition	MY58041391	25LM20	TPA	08 Feb 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 :

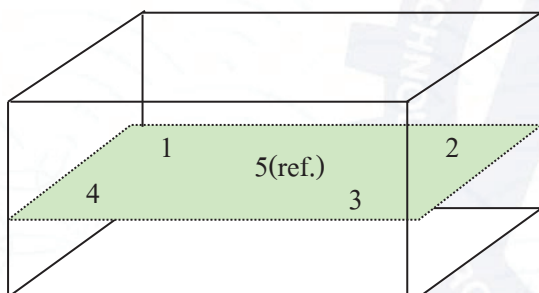
**Remark :** TPA : Technology Promotion Association ( Thailand - Japan )

**Result of Calibration :-** ( \* ) Without Adjustment

**Function of UUC\* :** Temperature Source

**Heat transfer medium used :** Water

	<u>Environmental</u>		<u>AC Voltage Supply</u> ( Volt )
	( °C )	( %R.H. )	
<b>Beginning of Calibration</b>	24	63	224
<b>Finished of Calibration</b>	24	58	224



Front

<u>Position :</u>	<u>Ref. Std. ID No.:</u>
1	70RC143
2	70RC144
3	70RC145
4	70RC146
5(ref.)	70RC147



**Equipment :** Water Bath  
**Condition As-Received :** Used Item  
**Reference :** 2510-0042OC-13  
**Result of Calibration :-** ( \* ) Without Adjustment  
**Function of UUC\* :** Temperature Source

**Cert. No.:** 25TM528  
**Page :** 3 of 3

Calibration point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Average* Standard Reading ( °C )					Uncertainty  ( ± °C )
			Position					
			1	2	3	4	5 (ref.)	
85.0	85.0	85.0	84.863	84.748	84.869	84.990	84.966	0.21

Calibration point ( °C )	Uniformity ( °C )	Stability ( ± °C )	Coverage Factor <i>k</i>
85.0	0.33	0.12	2

**Average\* :** The average of 30 values in each position.

**Uniformity :** The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are 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.

**Stability :** One-half of the greatest maximum difference of measured temperature at any one probe.

**UUC\* :** 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 %.

-o0o-





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL.0-2717-3000-29 FAX.0-2719-9484



## Certificate of Calibration

Cert.No.: 25CH1162

Page.: 1 of 3

Equipment : pH Meter  
Manufacturer : Hach  
Model : HQ411d  
Serial No. : 200100031163  
ID No. : BKK\_EN0342  
Condition As-Received: Used Item  
Received Date : 08 October 2025  
Calibration Date : 09 October 2025  
Reference : 2510-0271DSC-1  
Submitted by :

Ambient Temperature :  $(25 \pm 2.5) ^\circ\text{C}$   
Relative Humidity :  $(50 \pm 15) \%$   
Calibration Procedure :  
In - house method :  
- CP-CH5 by direct measurement with  
certified reference material (CRM)  
- CP-CH8 by comparison with temperature standard

Calibrated by : Walalak Sirithean

Approved by :

*Saithip*

Approved Signatory

- ( ) Chakrit Waewwanjua  
( ) Ponpan Paipim  
(✓) Saithip Meangmai

Issue Date : 10 October 2025

REVIEW BY *Jinda K*  
APPROVED BY *Siriluk P*  
NEXT CAL DATE.....09/10/26

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.



**Cert.No.:** 25CH1162

**Page.:** 2 of 3

**Condition of this calibration result**

**1. Reference Standard Instrument**

<b><u>Instrument</u></b>	<b><u>Serial No.</u></b>	<b><u>ID No.</u></b>	<b><u>Cert. No.</u></b>	<b><u>Due Date</u></b>
1) Ref. Standard Thermometer	4982054	110RC044	25I708	03 July 2026

- This measurement result is traceable to SI through Technology Promotion Association (Thailand - Japan)

**2. Certified Reference Materials** : The measurement results are traceable to SI through CPA chem Ltd.,  
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

<b><u>Buffer Solution</u></b>	<b><u>Manufacturer</u></b>	<b><u>Lot No.</u></b>	<b><u>Exp. date</u></b>
pH 4.007	CPA chem	1114384	12 June 2027
pH 6.965	CPA chem	1066667	18 Jan 2026
pH 10.010	CPA chem	1135355	16 Aug 2026

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

**Calibration Results**

**Function :** pH Measurement

**Performing three buffers standard curve by using buffer nominal pH (4,7,10)**

<b>Unit Under Calibration</b>	<b>Standard pH Buffer Solution</b>	<b>Actual pH Reading</b>	<b>Actual mV Reading (mV)</b>	<b>Uncertainty of pH Measurement (<math>\pm</math>)</b>	<b>Coverage factor <math>k</math></b>
pH Electrode S/N.: 252063043080	4.007	3.996	176.6	0.0046	2.00
	6.965	6.974	1.1	0.0084	2.00
	10.010	9.996	-176.9	0.0070	2.00

**Remark** - Can not connect the BNC because the plug does not match with the socket.





Cert.No.: 25CH1162

Page.: 3 of 3

### Calibration Results

#### Function : Temperature Measurement

#### **( \* ) Without adjustment**

This equipment was connected with Temperature Probe;

- Model : PHC281  
- Serial No. : 252063043080

Dimension of probe

- Length : 103 mm.  
- Diameter : 12 mm.  
- Immersion Depth : 90 mm.

Calibration Point ( °C )	Standard Temperature ( °C )	UUC* Reading ( °C )	Error ( °C )	Uncertainty of measurement ( ± °C )	Coverage factor <i>k</i>
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 %.

-o0o-

Certificate No. T250873

Page 1 of 4

### Certificate of Calibration

**Equipment** : Chamber ( Cooling Room )**Manufacturer** : KOLDTECH**Model** : KM 320**Serial No.** : TBN-1012061/05**Customer Code** : BKK\_EN0167**ID No.** : T2463A3**Customer** : ALS Laboratory Group (Thailand) Co.,Ltd.

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,

Khet Suan Luang, Bangkok 10250

**Customer Location** : Laboratory Room**Date of Receipt** : 28 May 2025**Calibrated By** : Atiphong Rongrat ( Technician )**Approved By** :  / Boonchai Suriyawong (Site Calibration Manager)**Date of Issue** : 19 JUN 2025

REVIEW BY

Jinda K

APPROVED BY

Siriluk P

NEXT CAL DATE.....04/12/26

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.

Certificate No. T250873

Page 2 of 4

## Calibration Report

**Equipment** : Chamber ( Cooling Room )  
**Date of Calibration** : 4 June 2025  
**Environment** : Temperature : 23.4-24.9 °C  
Line Voltage : 221.4-230.2 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by insert 16 standard thermocouples type T into its chamber , the other one standard thermocouples type T use for ambient temperature measurement . The calibration was done in according to WI-T20 ( based on ASTM E145-94 ( Reapproved 2001) and AS2853-1986 ).

All data show 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
TC	TYPE T	TN91-TN100	T242036	3 December 2025
TC	TYPE T	TN101-TN110	T242036	3 December 2025
DATA LOGGER	34970A	T121	T242036	3 December 2025

3. This certificate is traceable to :

National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244.)

4. Condition of calibrated item : good

Equipment Description :

Time Constant 2 Hour 20 Minute At 3 °C  
Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available

5. Adjustment :

( X ) without adjustment

( ) after adjustment

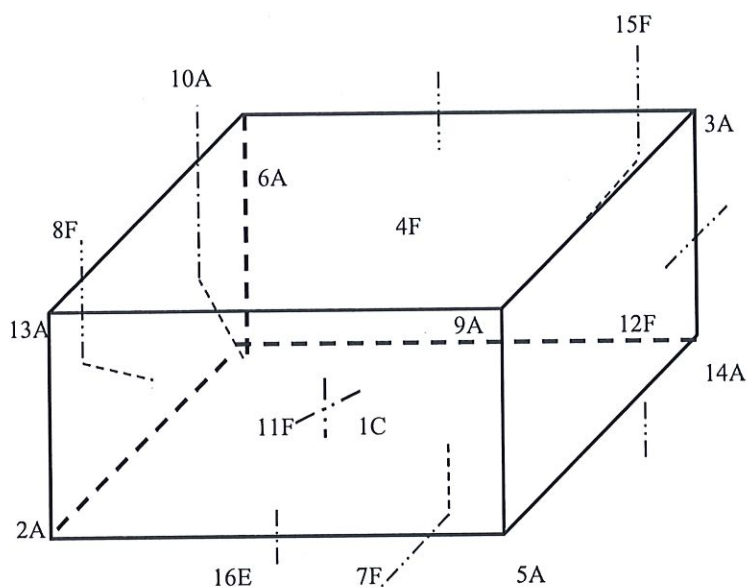
Approved By. Bum Sri



Certificate No. T250873

Page 3 of 4

## Calibration Report



C = Centre , F = Centre of Face , A = Corner , E = Centre of Edge

1C = TN91	12F = TN102
2A = TN92	13A = TN103
3A = TN93	14A = TN104
4F = TN94	15F = TN105
5A = TN95	16E = TN106
6A = TN96	
7F = TN97	
8F = TN98	
9A = TN99	
10A = TN100	
11F = TN101	

Approved By. \_\_\_\_\_





Certificate No. T250873

Page 4 of 4

## Calibration Report

### Measurement Results

Calibration Point	Average Standard Reading at each position (°C)											
	TN91	TN92	TN93	TN94	TN95	TN96	TN97	TN98	TN99	TN100	TN101	TN102
3.0	2.95	2.92	3.09	2.92	3.16	3.50	3.40	3.03	3.14	2.98	3.44	3.13
	TN103	TN104	TN105	TN106								
	3.19	3.06	3.46	2.92								

Chamber ( Cooling Room )			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (± °C)	Uniformity (°C)	Uncertainty (± °C)	Coverage Factor <i>k</i>
	Min , Max	Average					
3.0	2.8 , 3.9	3.4	3.14	1.20	1.30	1.90	2.04

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor *k* which for a t-distribution, providing a level of confidence of approximately 95 % .

Approved By. 



**Metrology Center**  
**SCI ECO Services Company Limited**

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

Bangkok Tel : +668 9205 6851 , +669 81924 0059

Saraburi Tel : +669 8247 2360

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th



Certificate No. T251785

Page 1 of 3

## Certificate of Calibration

**Equipment** : Chamber ( Oven )

**Manufacturer** : Memmert

**Model** : UF110

**Serial No.** : B423.1549

**Customer Code** : BKK\_EN0425

**ID No.** : T4671A5

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

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,

Khet Suan Luang, Bangkok 10250

**Customer Location** : Oven Room

**Date of Receipt** : 1 October 2025

**Calibrated By** : Sujjar Naknakred ( Site Calibration Manager )

**Approved By** : Don Zol Boonchai Suriyawong (Site Calibration Manager)

**Date of Issue** : 10 OCT 2025

REVIEW BY	<u>finda k</u>
APPROVED BY	<u>Siriluk P</u>
NEXT CAL. DATE	<u>06/10/26</u>

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.

Certificate No. T251785

Page 2 of 3

## Calibration Report

**Equipment** : Chamber ( Oven )  
**Date of Calibration** : 6 October 2025  
**Environment** : Temperature : 24.4-25.8 °C  
Line Voltage : 220.5-225.2 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by insert nine resistance thermometer detectors into its chamber , the other one resistance thermometer detector use for ambient temperature measurement . The calibration was done in according to WI-T20 ( based on ASTM E145-94 ( Reapproved 2019) and AS2853-1986 ).

All data show 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 ohm	23-(CH1-10)	T250314	6 April 2026
DATA LOGGER	34970A	T195	T250314	6 April 2026

3. This certificate is traceable to :

National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244.

4. Condition of calibrated item : good


Equipment Description :

Time Constant 2 Hour 14 Minute At 104 °C  
Fresh Air Damper ☒ Open ☒ Min ☐ Medium ☐ Max  
☐ Close  
☐ Not Available

5. Adjustment :

( ) without adjustment

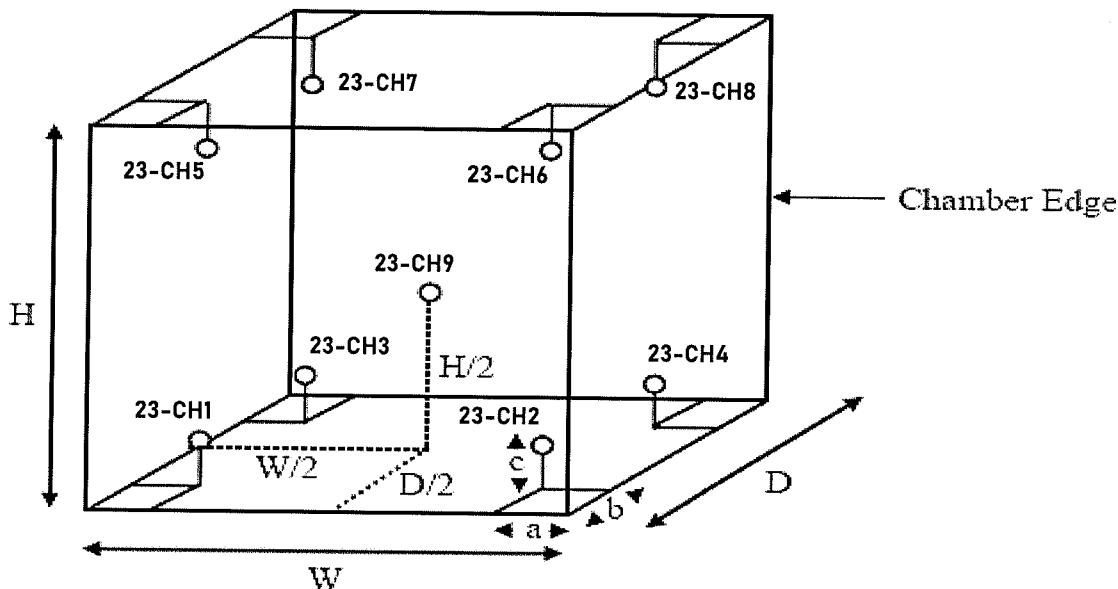
( X ) after adjustment

Approved By. 

Certificate No. T251785

Page 3 of 3

## Calibration Report



**Remark :** Internal Dimensions of Chamber : W (Width) = 56 cm. , H (Height) = 48 cm. and D (Depth) = 40 cm.  
 Size of Installed Standard sensor number 23-CH1 to number 23-CH8 : a = 5 cm. , b = 5 cm. and c = 5 cm.  
 Size of Installed Standard sensor number 23-CH9 : W/2 = 56 cm./2 , H/2 = 48 cm./2 and D/2 = 40cm./2

### Measurement Results

Average Standard Reading at each position (°C)									
Calibration Point	23-CH1	23-CH2	23-CH3	23-CH4	23-CH5	23-CH6	23-CH7	23-CH8	23-CH9
104	104.13	103.54	103.92	104.37	104.40	104.51	104.18	103.86	103.80
180	180.05	179.82	179.64	179.52	181.20	180.29	180.19	179.35	179.89

Chamber ( Oven )			Temperature Distribution				
Setting °C	Reading (°C )		Average ( °C )	Stability (± °C )	Uniformity ( °C )	Uncertainty (± °C )	Coverage Factor k
	Min , Max	Average					
104.0	-	104.0	104.08	0.28	0.87	0.45	2.00
180.0	180.0 , 180.1	180.0	179.99	0.37	1.49	0.61	2.00

\* The quoted uncertainty exclude "uniformity"

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 % .

End of Certificate.

Approved By. 


Certificate No. T250578



Page 1 of 4

**Certificate of Calibration****Equipment** : Digestion Unit**Manufacturer** : SCP Science**Model** : DigiPRER HT**Serial No.** : HTC1120480658**Customer Code** : BKK\_EN0366**ID No.** : T2635A5**Customer** : ALS Laboratory Group (Thailand) Co.,Ltd.

104 Phatthanakan 40, Phatthanakan Rd.,

Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250

**Customer Location** : Wet Chemistry Lab 1**Date of Receipt** : 2 April 2025**Calibrated By** : Atiphong Rongrat ( Technician )**Approved By** :  / Boonchai Suriyawong ( Site Calibration Manager )**Date of Issue** : 13 MAY 2025

REVIEW BY	
APPROVED BY	
NEXT CAL. DATE	09/04/26

**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.



# Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th

E-Mail : calibrate@scg.co.th

Certificate No. T250578

Page 2 of 4

## Calibration Report

Equipment : Digestion Unit  
Date of Calibration : 9 April 2025  
Environment : Temperature : 23.9 - 26.3 °C  
Line Voltage : 221.8 - 225.9 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by insert four standard thermocouples type S into its chamber , the other one thermocouple type T use for ambient temperature measurement . The calibration was done in according to WI-T10.

All data show 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
TC	Type S	M7-(CH1-CH4)	T242035	04 December 2025
DATA LOGGER	34970A	T121	T242035	04 December 2025

#### 3. This certificate is traceable to :

National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244.)

#### 4. Condition of calibrated item : good

##### Equipment Description :

Time Constant 2 Hour 40 Minute At 380 °C  
Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available

#### 5. Adjustment :

( X ) without adjustment

( ) after adjustment

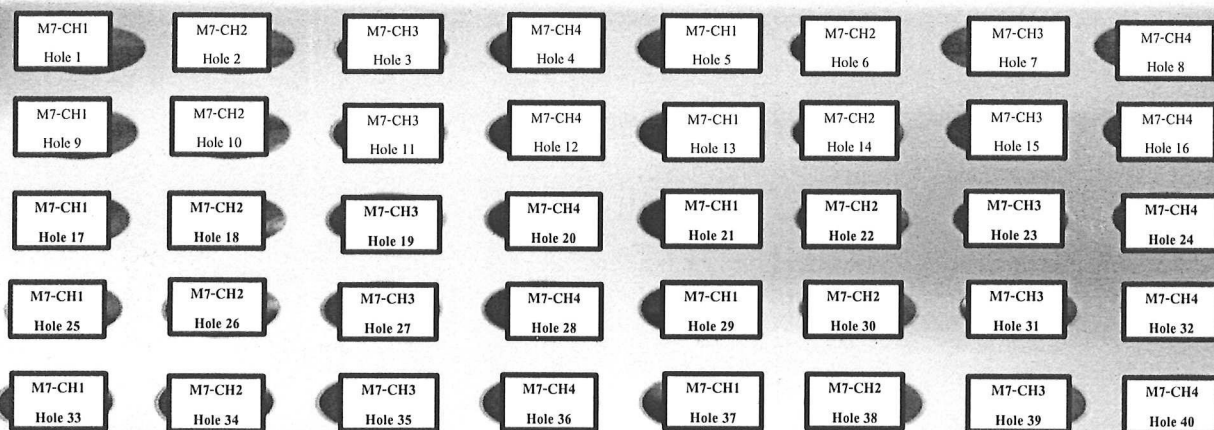
Approved By. Pon Zi



Certificate No. T250578

Page 3 of 4

## Calibration Report



FRONT

### Measurement Results

Cal. Point	Setting	Reading	STD.	Position of Standards at Block							
(°C)	(°C)	(°C)	Reading	M7-CH1 Hole 1	M7-CH2 Hole 2	M7-CH3 Hole 3	M7-CH4 Hole 4	M7-CH1 Hole 5	M7-CH2 Hole 6	M7-CH3 Hole 7	M7-CH4 Hole 8
380.0	380.0	379.8 - 380.2	Max °C	380.0	381.0	380.9	379.6	380.3	380.9	381.3	380.1
			Min °C	379.6	380.8	380.6	379.3	379.9	380.5	380.9	379.6
			Average °C	379.8	380.9	380.7	379.5	380.1	380.7	381.1	379.9
			Stability ± °C	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2

Cal. Point	Setting	Reading	STD.	Position of Standards at Block							
(°C)	(°C)	(°C)	Reading	M7-CH1 Hole 9	M7-CH2 Hole 10	M7-CH3 Hole 11	M7-CH4 Hole 12	M7-CH1 Hole 13	M7-CH2 Hole 14	M7-CH3 Hole 15	M7-CH4 Hole 16
380.0	380.0	379.8 - 380.2	Max °C	378.9	378.7	379.8	381.0	382.8	381.3	381.7	380.4
			Min °C	378.3	378.2	379.3	380.7	382.1	380.5	381.3	380.0
			Average °C	378.6	378.5	379.5	380.9	382.4	380.9	381.5	380.2
			Stability ± °C	0.3	0.2	0.3	0.1	0.3	0.4	0.2	0.2

Approved By.



Certificate No. T250578

Page 4 of 4

## Calibration Report

### Measurement Results

Cal. Point	Setting	Reading	STD.	Position of Standards at Block							
(°C)	(°C)	(°C)	Reading	M7-CH1 Hole 17	M7-CH2 Hole 18	M7-CH3 Hole 19	M7-CH4 Hole 20	M7-CH1 Hole 21	M7-CH2 Hole 22	M7-CH3 Hole 23	M7-CH4 Hole 24
380.0	380.0	379.8 - 380.2	Max °C	379.3	379.2	379.1	379.5	380.8	381.1	382.5	381.3
			Min °C	379.1	379.0	378.8	379.2	380.5	380.8	382.1	381.1
			Average °C	379.2	379.1	379.0	379.3	380.6	380.9	382.3	381.2
			Stability ± °C	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1

Cal. Point	Setting	Reading	STD.	Position of Standards at Block							
(°C)	(°C)	(°C)	Reading	M7-CH1 Hole 25	M7-CH2 Hole 26	M7-CH3 Hole 27	M7-CH4 Hole 28	M7-CH1 Hole 29	M7-CH2 Hole 30	M7-CH3 Hole 31	M7-CH4 Hole 32
380.0	380.0	379.8 - 380.2	Max °C	378.5	378.2	379.5	378.5	380.4	380.8	380.4	380.9
			Min °C	378.2	377.9	379.2	378.2	380.0	380.5	380.1	380.6
			Average °C	378.3	378.0	379.4	378.3	380.2	380.7	380.2	380.8
			Stability ± °C	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2

Cal. Point	Setting	Reading	STD.	Position of Standards at Block							
(°C)	(°C)	(°C)	Reading	M7-CH1 Hole 33	M7-CH2 Hole 34	M7-CH3 Hole 35	M7-CH4 Hole 36	M7-CH1 Hole 37	M7-CH2 Hole 38	M7-CH3 Hole 39	M7-CH4 Hole 40
380.0	380.0	379.8 - 380.2	Max °C	379.9	380.0	379.8	379.7	380.1	380.2	379.7	379.8
			Min °C	379.6	379.6	379.5	379.3	379.8	379.9	379.4	379.5
			Average °C	379.8	379.8	379.7	379.5	379.9	380.1	379.5	379.7
			Stability ± °C	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1

 The expanded uncertainty of temperature measurement was  $\pm 2.36^{\circ}\text{C}$ 

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

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

Approved By.







## Calibration Instrument Report

**Instrument:** Automated Discrete Analyzer

**Manufacturer:** AMS

**Model:** SmartChem 600

**Serial number:** 2401055

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

**Address:** 104 Phatthanakan 40 Alley, Phatthanakan, Suan Luang, Bangkok 10250

**Calibration date:** 3 Sep 2025

**Place:** ALS Laboratory Group (Thailand) Co., Ltd.

REVIEW BY	..... Arraya M. ....
APPROVED BY	..... Siriluk P. ....
NEXT CAL. DATE	..... 3/9/2026 ....

### Check fluid to validate the correct functioning of the instrument

#### INTENDED USE

Check fluid to validate the correct functioning of the instrument.

#### Purpose

The purpose of this document is to aim at the correct execution of the method and the installation of the Check fluid to validate the correct functioning of the instrument.

#### COMPOSITION

Fluidic Test CHECK-01 20 x 4.5 mL (liquid) Lot number: 45751 Expiry date: 2027-04

#### PROCEDURE

The reagent is ready to use. Check fluid to validate the correct functioning of the instrument following method CHECK-01 and WORKPLAN CHECK01 DILUTION.

**Results** For the correct operation of the machine, the expected results are as follows:

1. Evaluation of calibration Results:  $R^2$

	$R^2$
Result	1
Range	>0.995 - 1

2. Evaluation of Samples Results:

Dilution	Replicates	Results mg/L	Range	CV% calculated	CV%
1/1	x10	0.604	0.599 – 0.610	0.17	≤ 1
1/10	x10	0.611	0.590 – 0.625	1.37	≤ 2
1/20	x10	0.643	0.535 – 0.675	3.49	≤ 5
1/50	x10	0.689	0.510 – 0.750	7.70	≤ 10
1/75	x10	0.758	0.500 – 0.895	11.11	≤ 15

Validation by (.....  .....)  
Apirom Ekviriyakul



## แบบฟอร์มการประเมินเครื่อง Discrete Analyzer หลังการสอบเทียบ

ชื่อเครื่องมือ :Discrete Analyzer

ID No. BKK\_EN0438

S/N :2401055

Parameter	Range	Test Results	Pass	Fail	Remark
Evaluation of calibration	>0.995 -1	1.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CV% calculated Dilution1/1	$\leq 1$	0.17	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CV% calculated Dilution1/10	$\leq 2$	1.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CV% calculated Dilution1/20	$\leq 5$	3.5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CV% calculated Dilution1/50	$\leq 10$	7.70	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
CV% calculated Dilution1/75	$\leq 15$	11.11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

ผู้ตรวจสอบ     *Arraya M.*  
(Arraya Meechai)  
(05/09/2025)

ผู้อนุมัติ:     *Siriluk P.*  
( Siriluk Bunnak )  
(05/09/2025)

## ภาคผนวก จ

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สำเนาหนังสือใบอนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

ที่อก ๐๓๑๐(๑)/ ๑๖๑๖๘



กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๒๐ พฤศจิกายน ๒๕๖๖

เรื่อง ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๔ สิงหาคม ๒๕๖๖

- สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น  
๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผ่น  
๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๑ แผ่น

ตามหนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้

- ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑  
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ ๑๘๑ ราย ตามสิ่งที่ส่งมาด้วย ๒  
ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย น้ำใต้ดิน อากาศเสีย สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว และดิน ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๙ หากประสงค์จะต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อกรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันสิ้นสุดอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ทั้งนี้ สามารถยื่นคำขอผ่านระบบอิเล็กทรอนิกส์ได้ที่หน้าเว็บไซต์กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายสิระ จันทรเจ็ด)

นักวิทยาศาสตร์เชี่ยวชาญ วิชาการราชการแทน  
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน  
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๔๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



“อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”



เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ว-๒๐๔  
ที่ ออก ๐๓๑๐(๑)/ ๑ ๖ ๑ ๖ ๘ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

- |                                |                            |
|--------------------------------|----------------------------|
| ๑) นางสาวยุพาพร จันทร์เปล่ง    | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๑ |
| ๒) นางสาวชัชชัย โกมารกุล ณ นคร | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๒ |
| ๓) นายศรายุทธ จิตรานนท์        | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๓ |
| ๔) นางสาวนกกร เอนก             | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๔ |
| ๕) นายสุริยา สอนแก้ว           | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๕ |
| ๖) นายวิชาญ ชุณหะวัณ           | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๖ |

วิมล

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ว-๒๐๔

ที่ ออก ๐๓๑๐(๑)/ ๑๖๑๖๘

ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๘๑ ราย

๑) นายกาจบัณฑิต กิตติคุณวิชัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๑
๒) นายภัทรพล สว่างใจธรรม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๒
๓) นายนราธิป เทือกชัยคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๓
๔) นายศิริโชค พงษ์ประสม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๔
๕) นายณัฐวุฒิ ดั่งแพง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๕
๖) นางสาวจินดา ไชจุธรรม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๖
๗) นางสาวสาวิตรี น้อยเสงี่ยม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๗
๘) นางสาวชนัญญาญจน์ อัมมขม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๘
๙) นางสาวนรินทร์ สายเส็ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๙
๑๐) นางสาวนันทวดี สมบูรณ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๐
๑๑) นางสาวศรณิยา เฉลิมธารงค์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๑
๑๒) นางสาวธัญญธร มงคลจิรวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๒
๑๓) นางสาวศิริลักษณ์ บุญนาค	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๓
๑๔) นายพนพงศ์ จันทุพันธุ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๔
๑๕) นายนรเศรษฐ์ โกมลาลัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๕
๑๖) นายธันวา จริยา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๖
๑๗) นางสาวเกศรินทร์ แก้วมัน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๗
๑๘) นางสาวสุวิมล ชัยเรืองวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๘
๑๙) นางสาวสุชาดา ธรรมถาวร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๙
๒๐) นางสาวเปมิกา ชัยเดชธนกุล	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๐
๒๑) นางสาวศศิธร หมูสวัสดิ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๑
๒๒) นางสาวเสาวลักษณ์ ภูณภาพพร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๒
๒๓) นายอภิสิทธิ์ สิงหา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๓
๒๔) นายศักดิ์สิทธิ์ ไพศาลพิสุทธิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๔
๒๕) ว่าที่ร้อยตรีหญิง พรรณิภา ขำเจริญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๕
๒๖) นางจิตตา คำภูแก้ว	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๖
๒๗) นางสาวอรรวรรณ รักยง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๗
๒๘) นางสาวนพรัตน์ แยมกรานต์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๘
๒๙) นายจุลเดช วารินทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๙
๓๐) นางสาวดาญรัตน์ ร้องคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๐
๓๑) นายพรมมี ศรีปัดเนตร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๑
๓๒) นายอุทิศ อุ่นสีม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๒
๓๓) ว่าที่ร้อยตรี เฉลิมเกียรติ อมรศรีเสริม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๓
๓๔) นางสาววริยา สร้างนา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๔
๓๕) นายอนุพงศ์ รัตนศรีประเสริฐ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๕



๓๖) นางสาวจุฑารัตน์...

๓๖) นางสาวจุฑารัตน์ โอนสันเทียะ  
๓๗) นางสาวจารุวรรณ พิมพ์อภิฤติยา  
๓๘) นางสาวปรารถน์ทิพย์ กิจไพศาลศักดิ์  
๓๙) นางสาวเดือนใจ ทางกลาง  
๔๐) นางสาวจิราพร ศิริเวช  
๔๑) นายวรากร ผูกרך  
๔๒) นายทง วิริยะสทกิจ  
๔๓) นายธนิศ เจนจบ  
๔๔) นายคณิศร ขำเพชร  
๔๕) นายภูวิช พรหมสะอาด  
๔๖) นายธนเดช โกศาพิพัฒน์  
๔๗) นายชวฤทธิ์ วงษ์จันทร์  
๔๘) นายอาทิตย์ ศรีเสน  
๔๙) นายเจษดินทร์ คงศักดิ์ไทย  
๕๐) นายจรัส บุญยั้ง  
๕๑) นายธนาณัติ เอนก  
๕๒) นายอภิวัฒน์ ทุมหนู  
๕๓) นางสาวสุภาขวัญ มาก  
๕๔) นางสาวหัตถพร ขวาลสมบุรณ์  
๕๕) นางสาวธิตีมา บุญเพ็ง  
๕๖) นางสาวภานุมาศ นามวัฒน์  
๕๗) นางสาวอุไรรัตน์ ทังสร้างแป้น  
๕๘) นายธีรวัฒน์ ปวงสุข  
๕๙) นายอิทธิพล ยะโส  
๖๐) นายประพจน์ วรรณชูชัย  
๖๑) นายชยธร พวงทิพย์  
๖๒) นางสาวกนกวรรณ จันทบาล  
๖๓) นายสิทธิโชค ธงเงิน  
๖๔) นางศิวาวรรณ ใจบุญ  
๖๕) นางสาวพรรณธิดา พุ่มคง  
๖๖) นายนวกัทร ศรีวิริยะ  
๖๗) นายสุวิชา ทองอ่อน  
๖๘) นายวิญญู บุญตะนัย  
๖๙) นายสมบุรณ์ บุตรจันทร์  
๗๐) นายวิรัตน์ ไชยนระรา  
๗๑) นายณฤเบศน์ เพิ่มพูน  
๗๒) นายจิรณัฐ ขาวละออ  
๗๓) นายอัสนี นามบุรี  
๗๔) นายอัศวเรศ จ่อสา

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๖  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๗  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๔  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๖  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๗  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๘  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๙  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๐  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๖  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๘  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๙  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๐  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๓  
ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๔

3กมล



๗๕) นายประเสริฐ สุระขันธุ์  
๗๖) นายอนุกุล จันทน์เนียม  
๗๗) นายพิรพงษ์ ทองคุณปรีดา  
๗๘) นายณฤพล ทองนุช  
๗๙) นายอนุวัฒน์ ม่วงแพ  
๘๐) นายเจตศราวุฒิ ปัตตะมะ  
๘๑) นายกฤษณะ สายวรรณ  
๘๒) นายพิชัย บุญยงค์  
๘๓) นายภาณุพงศ์ โสมวงศ์  
๘๔) นายสามารถ คุ่มปลี  
๘๕) นายสัญญาชัย โกศรีนาม  
๘๖) นายณัฐวุฒิ ศรีประเสริฐ  
๘๗) นายชวัลธัช นาคพนม  
๘๘) นายพงศธร ชัยทิพย์  
๘๙) นายสิทธิโชค ทาสีดา  
๙๐) นายธนากร อินสุตา  
๙๑) นางสาววรรณิษา ชาตวันชัย  
๙๒) นางสาวพิมพ์ตะวัน มินากุล  
๙๓) นางสาวเพชรรัตน์ สิงห์สมบุญ  
๙๔) นางสาวชญาณิน พรหมจันทร์  
๙๕) นายกীরติ ทวีราช  
๙๖) นายจักริน หมั่นวิชา  
๙๗) นายฉัตรชัย สุขเปี้ย  
๙๘) นายณรรนท ต๊ะทองคำ  
๙๙) นายศุภผล สนนอก  
๑๐๐) นายทักษ์ดนัย อุบลศรี  
๑๐๑) นายธนากร นามะกฤษณา  
๑๐๒) นายธิตพงศ์ บัวแดง  
๑๐๓) นายนนทชัย อุปถัมภ์  
๑๐๔) นายณัฐพล คุณสุทธิ  
๑๐๕) นายณัฏฐวัฒน์ สาริน  
๑๐๖) นายปิยะนัฐ พลมะศรี  
๑๐๗) นายพงศ์สิริ โสมเขียว  
๑๐๘) นายพีรพัฒน์ กำคำ  
๑๐๙) นายภาณุพงศ์ มานิตย์  
๑๑๐) นายมงคล ผลาทิพย์  
๑๑๑) นายสิรินันท์ ทองอ้น  
๑๑๒) นายอเนชา ทันสมัย  
๑๑๓) นายอดิศักดิ์ ผมไผ

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๕  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๓

วิมล

๑๑๔) นายอนันตชัย...

๑๑๔) นายอนันตชัย วิสม  
๑๑๕) นายวรวิธ ตีนัก  
๑๑๖) นายแสงตะวัน นตะสัด  
๑๑๗) นายยุทธพงศ์ รัตนะ  
๑๑๘) นายชัยวัฒน์ ไชยชนะนิจ  
๑๑๙) นายวิศรุต ศรีธรรมมา  
๑๒๐) นายณนทกร เผือกผ่อง  
๑๒๑) นายกำชัย สุทธะ  
๑๒๒) นางสาวณัฐภรณ์ บุญตะนัย  
๑๒๓) นางสาวพัชรินทร์ แสนสร้อย  
๑๒๔) นายไพรวลัย เปี่ยมพิมาย  
๑๒๕) นางสาวศุภมาศ ทองมาก  
๑๒๖) นางสาวลลิตา จิตรสว่าง  
๑๒๗) นางสาวไมพร เสิกภูเขียว  
๑๒๘) นางสาวกฤติมาพร คำมีแก่น  
๑๒๙) นางสาวสกุลรัตน์ ภาคภูมิ  
๑๓๐) นางสาวไพรินทร์ ศรีรูปี  
๑๓๑) นางสาวทิพนเตร ผุยปัญญา  
๑๓๒) นางสาวสาธิตา ปานทอง  
๑๓๓) นางสาวอริสา ทองนวล  
๑๓๔) นางสาวอรยา คำคล้อง  
๑๓๕) นางสาวชุตาภรณ์ สุนทรสนาน  
๑๓๖) นางสาวอัญชลี คำจันทร์  
๑๓๗) นายบุญฤทธิ์ เอี่ยมเทศ  
๑๓๘) นางสาวศุภรดา บันมยุรา  
๑๓๙) นางสาวพาฤดี คุณนาน  
๑๔๐) นางสาวจิราเจต ฟองดา  
๑๔๑) นางสาวอารยา มีชัย  
๑๔๒) นางสาววิษุตา นาคผจญ  
๑๔๓) นางสาวนันทิยา จันทะสุน  
๑๔๔) นายกิตติพงศ์ แซ่ลี  
๑๔๕) นายอนวัติ ภูถวิล  
๑๔๖) นายธีรพล แสงทอง  
๑๔๗) นายศักดิ์พิพัฒน์ บุญมัน  
๑๔๘) นายฐิติวัลด์ เอมอุไร  
๑๔๙) นายชัยณรงค์ ศรีบุรินทร์  
๑๕๐) นางสาวอัจฉราวรรณ สอนสนอง  
๑๕๑) นางสาวณัฐพร สิงหา  
๑๕๒) นายกัมเรศ แหยมโต

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๔  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๖  
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๕๒

31/๑๖

๑๕๓) นางสาวอุบล...

๑๕๓) นางสาวอุบล เคิกศิริ  
๑๕๔) นางสาวมโนรัตน์ ทองบุตร  
๑๕๕) นายภาคภูมิ แทนไทย  
๑๕๖) นางสาวสุภาภรณ์ เมล์พวง  
๑๕๗) นางสาวพรทิศา สาดาชนม์  
๑๕๘) นายเอกวิทย์ วันทะนา  
๑๕๙) นายไตรมณฑล ทิพย์วรรณ  
๑๖๐) นายจิรเมธ ประเสริฐสิริพงศ์  
๑๖๑) นายจิรายุส เกษมสุข  
๑๖๒) นายจิรศักดิ์ ศรีวิชัย  
๑๖๓) นายณัฐกฤษณ์ สะพานแก้ว  
๑๖๔) นายบุญศักดิ์ ปะที  
๑๖๕) นายปณณวิทย์ เสมอทรัพย์  
๑๖๖) นายพิษณุพงษ์ ไชยา  
๑๖๗) นายภัทรพงษ์ มณฑาทอง  
๑๖๘) นายวสันต์ ตรีนกุล  
๑๖๙) นายภาณุเดช เพชรอุด  
๑๗๐) นายอนุกุล วิละแสง  
๑๗๑) นายภัทรพงษ์ มีสุข  
๑๗๒) นางสาวนุชรี ลีละทีป  
๑๗๓) นางสาวสุภาวดี โกศรีนาม  
๑๗๔) นางสาวอรณิข เทียนคำ  
๑๗๕) นางสาวพรเพ็ญ ชอบสอน  
๑๗๖) นางสาววันวิสา ขอนพิกุล  
๑๗๗) นางสาวอรรณณ เถาว์ทอง  
๑๗๘) นางสาวอัยยลีน เมอร์วิณณ์  
๑๗๙) นางสาววิสรา ค่อยครอง  
๑๘๐) นายวุฒิกร ศิริวรรณ  
๑๘๑) นางสาวจรรวรรณ กระจำงพันธุ์

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๕๓  
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วิมล

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ว-๒๐๔

ที่ อก ๐๓๑๐(๑)/ ๑๖๑๖๘ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๗๔ รายการ

น้ำเสีย จำนวน 60 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldicarb	High-Performance Liquid Chromatographic Method <sup>[4]</sup>
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method <sup>[4]</sup>
3	Aldicarb Sulfoxide	High-Performance Liquid Chromatographic Method <sup>[4]</sup>
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
6	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
7	$\alpha$ -BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
8	$\beta$ -BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
9	$\delta$ -BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
10	$\gamma$ -BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method <sup>[4]</sup> 2) 5-Day BOD Test, Membrane Electrode Method <sup>[4]</sup>
12	Carbaryl	High-Performance Liquid Chromatographic Method <sup>[4]</sup>
13	Carbofuran	High-Performance Liquid Chromatographic Method <sup>[4]</sup>
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method <sup>[4]</sup> 2) Closed Reflux, Titrimetric Method <sup>[4]</sup>
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
17	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
18	Color	ADMI Weighted-Ordinate Spectrophotometric Method <sup>[4]</sup>

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

Small

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

วิมล

น้ำใต้ดิน จำนวน 126 รายการ

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



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

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

3m

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

3m2

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

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1260	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
98	pH	Electrometric Method <sup>[4]</sup>
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
100	Phenol	1) Distillation, Chloroform Extraction Method <sup>[4]</sup> 2) Distillation, Direct Photometric Method <sup>[4]</sup> 3) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
102	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
103	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>[4]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4]</sup>
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[4]</sup>
109	TPH (C <sub>5</sub> -C <sub>8</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[14,25]</sup>

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

3/11/25

อากาศเสีย (ปล่อยระบาย) จำนวน 28 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
2	Arsenic	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
3	Beryllium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
4	Cadmium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
5	Carbon Monoxide	1) Instrumental Analyzer Method <sup>[5]</sup> 2) Sampling Bag Non-Dispersive Infrared Method <sup>[5]</sup>
6	Chlorine	1) Absorption Sampling, Ion Chromatographic Method <sup>[5]</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>[5]</sup>
7	Chromium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
8	Cobalt	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
9	Copper	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
10	Cresol	Adsorption Sampling, Gas Chromatographic Method <sup>[5]</sup>
11	Dioxins	Isokinetic Sampling <sup>[5]</sup>
12	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method <sup>[5]</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>[5]</sup>
13	Hydrogen Fluoride	1) Absorption Sampling, Ion Chromatographic Method <sup>[5]</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>[5]</sup>
14	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>[5]</sup>



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	Lead	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
16	Manganese	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
17	Mercury	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
18	Nickel	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
19	Opacity	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>[5]</sup>
20	Oxides of Nitrogen	2) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>[5]</sup>
21	Selenium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
22	Sulfur Dioxide	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
23	Sulfuric Acid	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>[5]</sup>
24	Tellurium	2) Absorption Sampling, Alkaline Permanganate/Colorimetric Method <sup>[5]</sup>
25	Tin	3) Instrumental Analyzer Method <sup>[5]</sup>
26	Total Suspended Particulate	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
		2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
		1) Absorption Sampling, Barium-Thorin Titrimetric Method <sup>[5]</sup>
		2) Instrumental Analyzer Method <sup>[5]</sup>
		Isokinetic Sampling, Barium-Thorin Titrimetric Method <sup>[5]</sup>
		1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
		2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
		1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
		2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
		1) Isokinetic Sampling, Gravimetric Method <sup>[5]</sup>
		2) Paired Train, Isokinetic Sampling, Gravimetric Method <sup>[5]</sup>

3mml

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Vanadium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[5]</sup>
28	Xylene	Adsorption Sampling, Gas Chromatographic Method <sup>[5]</sup>

สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>[1,6,16,19]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>[1,6,17,19]</sup> 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[7,8,16,19]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[7,8,17,19]</sup>

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method <sup>[1,6,19]</sup> 2) Alkaline Digestion, Colorimetric Method <sup>[8,19]</sup>
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup>

amal

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup> 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>[1,6,20]</sup> 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>[1,6,30]</sup> 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>[20]</sup> 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>[30]</sup> 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method <sup>[21]</sup>
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic / Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic / Mass Spectrometric Method <sup>[11,26]</sup>
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic / Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic / Mass Spectrometric Method <sup>[11,26]</sup>
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma / Mass Spectrometric Method <sup>[7,17]</sup>
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma / Mass Spectrometric Method <sup>[7,17]</sup>
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 <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>[11,26]</sup>

3m

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
	<ul style="list-style-type: none"> <li>- 2-Chlorobiphenyl</li> <li>- 2,3-Dichlorobiphenyl</li> <li>- 2,2',5-Trichlorobiphenyl</li> <li>- 2,4',5-Trichlorobiphenyl</li> <li>- 2,2',3,5'-Tetrachlorobiphenyl</li> <li>- 2,2',5,5'-Tetrachlorobiphenyl</li> <li>- 2,3',4,4'-Tetrachlorobiphenyl</li> <li>- 2,2',3,4,5'-Pentachlorobiphenyl</li> <li>- 2,2',4,5,5'-Pentachlorobiphenyl</li> <li>- 2,3,3',4',6-Pentachlorobiphenyl</li> <li>- 2,2',3,4,4',5'-Hexachlorobiphenyl</li> <li>- 2,2',3,4,5,5'-Hexachlorobiphenyl</li> <li>- 2,2',3,5,5',6-Hexachlorobiphenyl</li> <li>- 2,2',4,4',5,5'-Hexachlorobiphenyl</li> <li>- 2,2',3,3',4,4',5-Heptachlorobiphenyl</li> <li>- 2,2',3,4,4',5,5'-Heptachlorobiphenyl</li> <li>- 2,2',3,4,4',5',6-Heptachlorobiphenyl</li> <li>- 2,2',3,4',5,5',6-Heptachlorobiphenyl</li> <li>- 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl</li> </ul>	
28	Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
29	pH	Electrometric Method <sup>[23,24]</sup>
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>

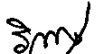
31



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,26]</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[10,26]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[11,26]</sup>
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>
35	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,16]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,17]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,17]</sup>

31/10/2564

ดิน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
2	Acetone	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>[13]</sup>
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
9	Benz(a)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup> 

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
11	Benzo(b)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
12	Benzo(k)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
13	Benzoic acid	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
14	Benzo(a)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
15	Benzo(g,h,i)perylene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
17	Bis(2-chloroethyl)ether	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
18	Bis(2-ethylhexyl)phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
21	Butanol	Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>[13,25]</sup>
22	Butyl Benzyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>

สม

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
24	Carbazole	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
28	p-Chloroaniline	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
32	2-Chlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[7,8,16,19]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[7,8,17,19]</sup>
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method <sup>[8,19]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
37	Cyanide	Extraction, Distillation, Colorimetric Method <sup>[27,28,29]</sup>
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
39	DDD	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
40	DDE	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
41	DDT	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
42	Dibenz(a,h)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
43	Di-n-Butyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
47	3,3-Dichlorobenzidine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
53	2,4-Dichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
58	Diethyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
59	2,4-Dimethylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
60	2,4-Dinitrophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
61	2,4-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
62	2,6-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
63	Di-n-Octyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
67	Fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
68	Fluorene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
70	Heptachlor epoxide	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
73	n-Hexane	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>[13]</sup>



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
74	$\alpha$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
75	$\beta$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
76	$\gamma$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
77	Hexachlorocyclopentadiene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
78	Hexachloroethane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
79	Indeno(1,2,3-cd)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
80	Isophorone	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>[20]</sup> 2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry <sup>[21]</sup> 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>[30]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>[13,25]</sup>
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
88	2-methylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
89	2-Methylnaphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
91	Naphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
93	Nitrobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
94	N-Nitrosodiphenylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
95	N-Nitrosodi-n-propylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>

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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',6-Heptachlorobiphenyl - 2,2',3,4',5,5',6-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
97	Pentachlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
98	Phenanthrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>

3/11/21

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
99	Phenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
100	Pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
101	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
102	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
108	TPH (C <sub>5</sub> -C <sub>8</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
109	TPH (C <sub>8</sub> - C <sub>16</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>[11,22]</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>[12,22]</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>[22,31]</sup>
110	TPH (C <sub>16</sub> - C <sub>35</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>[11,22]</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>[12,22]</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>[22,31]</sup>
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
115	2,4,5-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
116	2,4,6-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[10,26]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[11,26]</sup>
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[15,25]</sup>
125	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>[7,16]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,17]</sup>

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*Smal*





ที่ อก ๐๓๑๐(๑)/ ๔๑๒๑

กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๒๕ เมษายน ๒๕๖๗

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒๙ มีนาคม ๒๕๖๗

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๓ ราย

- |                          |                            |
|--------------------------|----------------------------|
| ๑) นางสาวพรรณธิดา พุ่มคง | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๕ |
| ๒) นายกำชัย สุทธะ        | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๒๑ |
| ๓) นางสาวศุภรดา บัณมยุรา | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๓๘ |

๒. ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๑๒ ราย

- |                             |                            |
|-----------------------------|----------------------------|
| ๑) นางสาวฐานิดา กลิ่นเขียว  | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๒ |
| ๒) นางสาวกัญญภัสสร สายคำ    | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๓ |
| ๓) นางสาวณัฐนันท์ กันทะวงศ์ | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๔ |
| ๔) นายอำนาจ วงษาเคน         | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๕ |
| ๕) นายกฤษณพล ปัญญาวงศ์      | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๖ |
| ๖) นายณชากร ทรรษา           | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๗ |
| ๗) นายวัชรินทร์ ผ่องสามสวน  | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๘ |
| ๘) นายณัฐพงศ์ โสภา          | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๙ |
| ๙) นายศักรินทร์ ปานเพ็ง     | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๐ |
| ๑๐) นายณัฐพล ชุ่มชื่น       | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๑ |
| ๑๑) นายธนา สุพาพันธุ์       | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๒ |
| ๑๒) นายนราธร แก้วพงษ์ชา     | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๓ |

อนึ่ง หนังสือฉบับนี้จะหมดอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
ในวันที่ ๒ กันยายน ๒๕๖๙

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายพริต ก้านกรอง)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



ที่อก ๐๓๑๐(๑)/ ๑๒ ๓๖ ๘ /



กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

## ๑๘ ธันวาคม ๒๕๖๗

เรื่อง ยกเลิกบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒ ธันวาคม ๒๕๖๗

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอยกเลิกบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์  
จำนวน ๘ ราย ได้แก่

- |                               |                            |
|-------------------------------|----------------------------|
| ๑) นายประพจน์ วรรณชูชัย       | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๐ |
| ๒) นายจิรณัฐ ขาวละออ          | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๒ |
| ๓) นายพีรพัฒน์ กำคำ           | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๐๘ |
| ๔) นางสาวอรยา คำคล่อง         | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๓๔ |
| ๕) นายกิตติพงศ์ แซ่ลี         | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๔๔ |
| ๖) นายจิรเมธ ประเสริฐศิริพงศ์ | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๖๐ |
| ๗) นายภัทรพงษ์ มณฑาทอง        | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๖๗ |
| ๘) นางสาวจารุวรรณ กระจำงพันธ์ | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๑ |

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายธีรทัศน์ อิศรางกูร ณ อยุธยา)  
รองอธิบดี ปฏิบัติราชการแทน  
อธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



“อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”



ที่ อก ๐๓๑๐(๑)/ ๓ ๑ ๕ ๐



กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๑๐ เมษายน ๒๕๖๘

เรื่อง ยกเลิกบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒ เมษายน ๒๕๖๘

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอยกเลิกบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์  
จำนวน ๒ ราย ได้แก่

๑) นายธิตพิงค์ บัวแดง

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๐๒

๒) นายมงคล ผลาทิพย์

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๐

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายธีรทัศน์ อิศรางกูร ณ อยุธยา)

รองอธิบดี ปฏิบัติราชการแทน

อธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th





ที่ อก ๐๓๑๐(๑)/ ๕๖ ๗ ๓

กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๐๕ มิถุนายน ๒๕๖๔

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๗ พฤษภาคม ๒๕๖๔

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ  
วิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ  
เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน  
จำนวน ๑๑ ราย ได้แก่

- |                                   |                            |
|-----------------------------------|----------------------------|
| ๑) นายคุณากร มั่นชื่น             | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๔ |
| ๒) นายชัยมงคล แสนมาตร             | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๕ |
| ๓) นายเอกรินทร์ บุตส์ักดิ์        | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๖ |
| ๔) นายพิชานนท์ อินปริง            | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๗ |
| ๕) นายศตวรรษ แก้วกันหา            | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๘ |
| ๖) นายวิกรม มีศิริ                | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๙ |
| ๗) นายภคนันท์ คำจันทราช           | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๒๐๐ |
| ๘) นายศิริวิทย์ มีไพฑูรย์         | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๒๐๑ |
| ๙) นายธีรพงษ์ ศรีคำแหง            | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๒๐๒ |
| ๑๐) นายอภิสิทธิ์ ศรีคงแก้ว        | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๒๐๓ |
| ๑๑) ว่าที่ร้อยตรี ภาณุพงศ์ แสนศรี | ทะเบียนเลขที่ ว-๒๐๔-จ-๐๒๐๔ |

อนึ่ง หนังสือฉบับนี้จะสิ้นอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
ในวันที่ ๒ กันยายน ๒๕๖๔

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายศิระ จันท์เลิศ)

นักวิทยาศาสตร์เชี่ยวชาญ รัชการยการแทน  
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน  
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



“อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”



ที่ อก ๐๓๑๐(๑)/ ๒๕๐๘



กรมโรงงานอุตสาหกรรม

ถนนพระรามที่ ๖ แขวงทุ่งพญาไท

เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๒๑ สิงหาคม ๒๕๖๔

เรื่อง เปลี่ยนแปลงสารมลพิษที่วิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒๗ มิถุนายน ๒๕๖๘

สิ่งที่ส่งมาด้วย เอกสารแนบท้ายหนังสือเปลี่ยนแปลงสารมลพิษที่วิเคราะห์

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด จำนวน ๖ แผ่น

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ  
วิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ  
เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงสารมลพิษที่วิเคราะห์ ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด  
เพิ่มขอบข่ายชนิดสารมลพิษที่วิเคราะห์ในน้ำใต้ดิน สิ่งปฏิกูลและวัสดุที่ไม่ใช่แล้ว และดิน ตามสิ่งที่ส่งมาด้วย

อนึ่ง หนังสือฉบับนี้จะสิ้นสุดอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
ในวันที่ ๒ กันยายน ๒๕๖๙

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นางสาวปัทมวรรณ คุณประเสริฐ)

ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน

ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



เอกสารแนบท้ายหนังสือเปลี่ยนแปลงสารมลพิษที่วิเคราะห์

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ว-๒๐๔

ที่ อก ๐๓๑๐(๑)/ ๖๕ ๐ ๘

ลงวันที่

๒๑

สิงหาคม ๒๕๖๔

ขอขยายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๔๐ รายการ

น้ำใต้ดิน จำนวน ๔ รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aluminum	Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[2]</sup>
2	Copper	Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[2]</sup>
3	Iron	Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[2]</sup>
4	Molybdenum	Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[2]</sup>

สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 17 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
2	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
3	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

๗๖

Beryllium

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
4	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[4,7]</sup>
5	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[4,7]</sup>
6	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[4,7]</sup>
7	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>[1,3,6,8]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>[1,3,7,8]</sup> 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[4,5,6,8]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[4,5,7,8]</sup>
8	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup>

๑๗



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
9	Copper	3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup> 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
10	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
11	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
12	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
13	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

อนันต์

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
14	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
15	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
16	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
17	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,3,6]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,3,7]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

**ดิน จำนวน 19 รายการ**

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aluminum	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
2	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
3	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
4	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
5	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
6	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
7	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
8	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[4,5,6,8]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>[4,5,7,8]</sup>
9	Copper	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
10	Iron	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
11	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
12	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
13	Molybdenum	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
14	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	pH	Electrometric Method <sup>[9]</sup>
16	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
17	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
18	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>
19	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>[4,6]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[4,7]</sup>

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อนุมัติ

ที่ อก ๐๓๑๐(๑) ๘๐ ๑๑



กรมโรงงานอุตสาหกรรม

ถนนพระรามที่ ๖ แขวงทุ่งพญาไท

เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

## ๒๖ กันยายน ๒๕๖๔

เรื่อง เปลี่ยนแปลงบุคลากร ชื่อตัวและชื่อสกุลของบุคลากร

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกซเรย์  
ลงวันที่ ๒๑ สิงหาคม ๒๕๖๔

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัดห้องปฏิบัติการวิเคราะห์เอกซเรย์ เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ชื่อตัวและชื่อสกุลของบุคลากร ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๒ ราย

๑) นางสาวพาฤดี คุณนาน

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๓๙

๒) นางสาวอรณิชา เทียนดำ

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๗๔

๒. ให้เปลี่ยนชื่อตัวและชื่อสกุลของเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จากเดิม นายอาทิตย์ ศรีเสน เป็น นายรัฐธีร์ ทวีกิจวรพจน์ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๘

อนึ่ง หนังสือฉบับนี้จะสิ้นอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกซเรย์ ในวันที่ ๒ กันยายน ๒๕๖๔

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นางสาวปัทมวรรณ คุณประเสริฐ)

ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน

ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



“อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”





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