

ภาคผนวก

ภาคผนวกที่	1	มาตรการติดตามตรวจสอบและลดผลกระทบสิ่งแวดล้อม (ระยะดำเนินการ)
ภาคผนวกที่	2	ผลการติดตามตรวจสอบคุณภาพสิ่งแวดล้อม
ภาคผนวกที่	3	เอกสารขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
ภาคผนวกที่	4	เอกสารสอบเทียบอุปกรณ์เครื่องมือห้องปฏิบัติการ
ภาคผนวกที่	5	แบบบันทึกระบบบำบัดน้ำเสีย
ภาคผนวกที่	6	แบบบันทึกการตรวจระดับเพลิง
ภาคผนวกที่	7	ผลการตรวจวิเคราะห์คุณภาพอากาศ

ภาคผนวกที่ 2

ผลการติดตามตรวจสอบคุณภาพสิ่งแวดล้อม

ภาคผนวกที่ 2.1

ผลการตรวจวิเคราะห์คุณภาพน้ำผ่านการบำบัด (EFFLUENT)



TEST REPORT

CUSTOMER	: Kalima Resort & Villas Khao Lak		
ADDRESS	: 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand		
SAMPLING SOURCE ^{/3}	: Kalima Resort & Villas Khao Lak	SAMPLE NO.	: 6901-0517
SAMPLING DATE ^{/3}	: 14/01/2026	SAMPLING TIME ^{/3}	: 08.21 AM
SAMPLING CONDITION	: Wastewater Treatment	SAMPLING BY ^{/3}	: STC
SAMPLING METHOD ^{/3}	: GRAB	(MS. JUTAPORN JUTAMAST จ-176-จ-0006)	
TESTED DATE	: 14-24/01/2026	RECEIVED DATE	: 14/01/2026
FILE NAME	: Kalima Resort & Villas Khao Lak	REPORTED DATE	: 26/01/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	7.64	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	2.0	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	3	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	906	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : ขุ่นเล็กน้อย มีตะกอนแขวนลอยสีน้ำตาล

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD : ประกาศกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม พ.ศ. 2567

เรื่อง กำหนดมาตรฐานควบคุมการระบายน้ำทิ้งจากอาคาร บางประเภท และบางขนาด (ประเภท ก)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)

2. ^{/2} : Out of accredited scope of private analysis laboratories จ-176

3. ^{/3} : Information received from customer

Examined by *Panvisa Jinrat*

(MS.PANVISA JINRAT)

จ-176-ค-0004

26 ต. 1026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน จ-176

Approved by *Pennapa Chanpen*

(MRS. PENNAPA CHANPEN)

จ-176-ค-0003

26 ต. 1026

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
 ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
 SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6901-0517
 SAMPLING DATE^{/3} : 14/01/2026 SAMPLING TIME^{/3} : 08.21 AM
 SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
 SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
 TESTED DATE : 14-24/01/2026 RECEIVED DATE : 14/01/2026
 FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 26/01/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	0.28	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	170	-

PHYSICAL APPEARANCE 1. Sample : ขุ่นเล็กน้อย มีตะกอนแขวนลอยสีน้ำตาล

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD : ประกาศกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม พ.ศ. 2567

เรื่อง กำหนดมาตรฐานควบคุมการระบายน้ำทิ้งจากอาคาร บางประเภท และบางขนาด (ประเภท ก)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)

2. ^{/2} : Out of accredited scope of private analysis laboratories 3.-176

3. ^{/3} : Information received from customer

4. ND = Not Detected (ตรวจวัด ไม่พบ ตามวิธีของห้องปฏิบัติการ)



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

26 1 2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6902-0171
SAMPLING DATE^{/3} : 05/02/2026 SAMPLING TIME^{/3} : 08.38 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST ๖-176-๖-0006)
TESTED DATE : 05-18/02/2026 RECEIVED DATE : 05/02/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 21/02/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	7.47	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	2.0	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	42	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	1,172	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : yellowish

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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- ^{/3} : Information received from customer

Examined by 

(MS.SIRIRAT NITESNOPAKUL)

๖-176-๖-0002

๒๑ ๐๒ ๖๖๖



ห้องปฏิบัติการวิเคราะห์คุณภาพ
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน ๖-176

Approved by 

(MRS. PENNAPA CHANPEN)

๖-176-๖-0003

๒๑ ๐๒ ๖๖๖

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6902-0171
SAMPLING DATE^{/3} : 05/02/2026 SAMPLING TIME^{/3} : 08.38 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 05-18/02/2026 RECEIVED DATE : 05/02/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 21/02/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	0.98	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	22,000	-

PHYSICAL APPEARANCE 1. Sample : yellowish

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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- ^{/2} : Out of accredited scope of private analysis laboratories 3-176
- ^{/3} : Information received from customer
- ND = Not Detected



Approved by

(MRS. PENNAPA CHANPEN)

21/02/2026

END OF REPORT

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6903-0137
SAMPLING DATE^{/3} : 05/03/2026 SAMPLING TIME^{/3} : 08.25 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST ๖-176-๖-0006)
TESTED DATE : 05-13/03/2026 RECEIVED DATE : 05/03/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 14/03/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	7.44	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	3.0	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	7	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	634	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : Clear

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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- ^{/2} : Out of accredited scope of private analysis laboratories ๖-176
- ^{/3} : Information received from customer

Examined by

(MS.SIRIRAT NITESNOPAKUL)

๖-176-๖-0002

14 03 2026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน ๖-176

Approved by

(MRS. PENNAPA CHANPEN)

๖-176-๖-0003

14 03 2026

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6903-0137
SAMPLING DATE^{/3} : 05/03/2026 SAMPLING TIME^{/3} : 08.25 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 05-13/03/2026 RECEIVED DATE : 05/03/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 14/03/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	26.04	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	3,500	-

PHYSICAL APPEARANCE 1. Sample : Clear

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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- ^{/2} : Out of accredited scope of private analysis laboratories 3.-176
- ^{/3} : Information received from customer
- ND = Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

END OF REPORT

Approved by

(MRS. PENNAPA CHANPEN)

14 03 2026

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6904-0359
SAMPLING DATE^{/3} : 08/04/2026 SAMPLING TIME^{/3} : 08.25 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST ๖-176-๖-0006)
TESTED DATE : 08-17/04/2026 RECEIVED DATE : 08/04/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 18/04/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	8.35	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	2.0	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	4	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	1,016	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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2. ^{/2} : Out of accredited scope of private analysis laboratories ๖-176

3. ^{/3} : Information received from customer

Examined by

(MS.SIRIRAT NITESNOPAKUL)

๖-176-๖-0002

18.04.๒๐๒๖



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน ๖-176

Approved by

(MRS. PENNAPA CHANPEN)

๖-176-๖-0003

18.04.๒๐๒๖

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6904-0359
SAMPLING DATE^{/3} : 08/04/2026 SAMPLING TIME^{/3} : 08.25 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 08-17/04/2026 RECEIVED DATE : 08/04/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 18/04/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	0.56	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	3,500	-

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

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2. ^{/2} : Out of accredited scope of private analysis laboratories 3.-176

3. ^{/3} : Information received from customer

4. ND = Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

18-04-2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER	: Kalima Resort & Villas Khao Lak		
ADDRESS	: 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand		
SAMPLING SOURCE ^{/3}	: Kalima Resort & Villas Khao Lak	SAMPLE NO.	: 6905-1036
SAMPLING DATE ^{/3}	: 20/05/2026	SAMPLING TIME ^{/3}	: 08.34 AM
SAMPLING CONDITION	: Wastewater Treatment	SAMPLING BY ^{/3}	: STC
SAMPLING METHOD ^{/3}	: GRAB	(MS. JUTAPORN JUTAMAST จ-176-จ-0006)	
TESTED DATE	: 20/05/2026-04/06/2026	RECEIVED DATE	: 20/05/2026
FILE NAME	: Kalima Resort & Villas Khao Lak	REPORTED DATE	: 08/06/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	7.16	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	24.7	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	20	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	2,052	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : turbid, brown SS

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

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2.^{/2} : Out of accredited scope of private analysis laboratories จ-176

3.^{/3} : Information received from customer

Examined by Panvisa Jinrat

(MS.PANVISA JINRAT)

จ-176-ค-0004

09/06/2026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน จ-176

Approved by Pennapa Chanpen

(MRS. PENNAPA CHANPEN)

จ-176-ค-0003

08/06/2026

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1036
SAMPLING DATE^{/3} : 20/05/2026 SAMPLING TIME^{/3} : 08.34 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-04/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	EFFLUENT "Reuse Water"	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	22.54	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	2,400	-

PHYSICAL APPEARANCE 1. Sample : turbid, brown SS

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)

2. ^{/2} : Out of accredited scope of private analysis laboratories ๓-176

3. ^{/3} : Information received from customer

4. ND = Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by 

(MRS. PENNAPA CHANPEN)

08 06 2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER	: Kalima Resort & Villas Khao Lak		
ADDRESS	: 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand		
SAMPLING SOURCE ^{/3}	: Kalima Resort & Villas Khao Lak	SAMPLE NO.	: 6906-1245
SAMPLING DATE ^{/3}	: 29/06/2026	SAMPLING TIME ^{/3}	: 08.29 AM
SAMPLING CONDITION	: Wastewater Treatment	SAMPLING BY ^{/3}	: STC
SAMPLING METHOD ^{/3}	: GRAB	(MS. JUTAPORN JUTAMAST ๖-176-๖-0006)	
TESTED DATE	: 29/06/2026-08/07/2026	RECEIVED DATE	: 29/06/2026
FILE NAME	: Kalima Resort & Villas Khao Lak	REPORTED DATE	: 09/07/2026

PARAMETER	UNIT	METHOD	EFFLUENT	STANDARD
pH at 25 °C ^{/1}	-	Electrometric Method	7.48	5.5 - 9.0
BOD ₅ ^{/1}	mg/L	5-Day BOD Test, Azide modification Method	2.9	≤ 20
Total Suspended Solids	mg/L	Dried at 103-105 °C (Part 2540D)	6	≤ 30
Total Dissolved Solids	mg/L	Dried at 180 °C (Part 2540C)	1,600	≤ 1,000

PHYSICAL APPEARANCE 1. Sample : turbid slightly, brown SS

2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)

2. ^{/2} : Out of accredited scope of private analysis laboratories ๖-176

3. ^{/3} : Information received from customer

Examined by Panvisa Jinrat

(MS.PANVISA JINRAT)

๖-176-๖-0004

09/07/2026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน ๖-176

Approved by Pennapa Chanpen

(MRS. PENNAPA CHANPEN)

๖-176-๖-0003

09/07/2026

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE^{/3} : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6906-1245
SAMPLING DATE^{/3} : 29/06/2026 SAMPLING TIME^{/3} : 08.29 AM
SAMPLING CONDITION : Wastewater Treatment SAMPLING BY^{/3} : STC
SAMPLING METHOD^{/3} : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 29/06/2026-08/07/2026 RECEIVED DATE : 29/06/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 09/07/2026

PARAMETER	UNIT	METHOD	EFFLUENT	STANDARD
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	0.70	≤ 35
Sulfide ^{/1}	mg/L as S ²⁻	Iodometric Method	ND	≤ 1
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	≤ 20
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	ND	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	68.0	-

PHYSICAL APPEARANCE

1. Sample : turbid slightly, brown SS
2. Container : normal [PE 2.0 L (2 bottles), G 0.5 L]

STANDARD

Notification of the Ministry of Natural Resources and Environment B.E. 2567 (2024)

Subject : Standards for Controlling Wastewater from Certain Types and Sizes of Buildings (Type A)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)
2. ^{/2} : Out of accredited scope of private analysis laboratories ๓.-176
3. ^{/3} : Information received from customer
4. ND = Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

09.07.2026

END OF REPORT

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ภาคผนวกที่ 2.2

ผลการตรวจวิเคราะห์คุณภาพน้ำสระว่ายน้ำ (SWIMMING POOL)



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6901-0518
SAMPLING DATE : 14/01/2026 SAMPLING TIME : 08.10 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 14-24/01/2026 RECEIVED DATE : 14/01/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 26/01/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD

คณะกรรมการสาธารณสุข ฉบับที่ 1/2550 เรื่องการควบคุมการประกอบกิจการสระว่ายน้ำ

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. Total Coliform bacteria < 1.8 mean Not Detected (ตรวจวัด ไม่พบ โดยวิธีทางห้องปฏิบัติการ)
2. Fecal Coliform Bacteria < 1.8 mean Not Detected (ตรวจวัด ไม่พบ โดยวิธีทางห้องปฏิบัติการ)



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

26 01 2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6902-0172
SAMPLING DATE : 05/02/2026 SAMPLING TIME : 08.16 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 05-18/02/2026 RECEIVED DATE : 05/02/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 21/02/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD Recommendation No. 1/2007 about Public Committee controlling the operation of the pool .

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK
1. Total Coliform bacteria < 1.8 mean Not Detected
2. Fecal Coliform Bacteria < 1.8 mean Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

21.02.2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6903-0138
SAMPLING DATE : 05/03/2026 SAMPLING TIME : 08.19 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 05-13/03/2026 RECEIVED DATE : 05/03/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 14/03/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD Recommendation No. 1/2007 about Public Committee controlling the operation of the pool .

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. Total Coliform bacteria < 1.8 mean Not Detected

2. Fecal Coliform Bacteria < 1.8 mean Not Detected



Approved by

(MRS. PENNAPA CHANPEN)

14 03 2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6904-0360
SAMPLING DATE : 08/04/2026 SAMPLING TIME : 08.19 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 08-17/04/2026 RECEIVED DATE : 08/04/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 18/04/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD

Recommendation No. 1/2007 about Public Committee controlling the operation of the pool .

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

1. Total Coliform bacteria < 1.8 mean Not Detected

2. Fecal Coliform Bacteria < 1.8 mean Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

18/04/2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1037
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.56 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-04/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD Recommendation No. 1/2007 about Public Committee controlling the operation of the pool .

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK
1. Total Coliform bacteria < 1.8 mean Not Detected
2. Fecal Coliform Bacteria < 1.8 mean Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by 

(MRS. PENNAPA CHANPEN)

08/06/2026

END OF REPORT

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6906-1246
SAMPLING DATE : 29/06/2026 SAMPLING TIME : 08.36 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 29/06/2026-08/07/2026 RECEIVED DATE : 29/06/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 09/07/2026

PARAMETER	UNIT	METHOD	Swimming Pool "Main Pool"	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	≤ 10
Fecal Coliform Bacteria	MPN/100 mL	MPN Test Method	< 1.8	ND

PHYSICAL APPEARANCE 1. Sample : clear

2. Container : normal [G 0.25 L]

STANDARD Recommendation No. 1/2007 about Public Committee controlling the operation of the pool .

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. Total Coliform bacteria < 1.8 mean Not Detected

2. Fecal Coliform Bacteria < 1.8 mean Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

09/07/2026

END OF REPORT

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ภาคผนวกที่ 2.3

ผลการตรวจวิเคราะห์คุณภาพน้ำใช้ (WATER SUPPLY)



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1041
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.48 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST ๖-176-๖-0006)
TESTED DATE : 20/05/2026-06/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	น้ำใช้ "หมายเลขห้อง 4104"	STANDARD
pH at 25 ⁰ C	-	Electrometric Method	7.65	6.5-8.5
Total Dissolved Solids	mg/L	Dried at 180 ⁰ C (Part 2540C)	192	≤ 600

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L (2 bottles)]

STANDARD มาตรฐานคุณภาพน้ำประปาของการประปาส่วนภูมิภาค พ.ศ.2567

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

Examined by 

(MS.PANVISA JINRAT)

๖-176-๖-0004

๐๖/๐๖/๒๐๒๖



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน ๖-17๔

Approved by 

(MRS. PENNAPA CHANPEN)

๖-176-๖-0003

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REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1041
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.48 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-06/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	น้ำใช้ "หมายเลขห้อง 4104"	STANDARD
Apparent color	Pt.Co	Spectrophotometric Method	0.98	≤ 15
Manganese	mg/L	Persulfate Method	ND	≤ 0.08
Turbidity	NTU	Nephelometric Method	0.11	≤ 4
Iron	mg/L	Phenanthroline Method	ND	≤ 0.3
Chloride	mg/L	Argentometric Method	62.39	≤ 250
Nitrate	mg/L	Cadmium Reduction Method	0.35	≤ 50
Fluoride	mg/L	SPADNS Method	ND	≤ 0.7
Hardness	mg/L as CaCO ₃	EDTA Titrimetric Method	66.0	≤ 300

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L (2 bottles)]

STANDARD มาตรฐานคุณภาพน้ำประปาของการประปาส่วนภูมิภาค พ.ศ.2567

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. ND = Not Detected (ตรวจวัดไม่พบโดยวิธีทางห้องปฏิบัติการ)



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by
(MRS. PENNAPA CHANPEN)

08 06 2026

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

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TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1041
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.48 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-06/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	น้ำใช้ "หมายเลขห้อง 4104"	STANDARD
Copper ^{1/}	mg/L	Digestion, Inductively coupled Plasma Method	0.03	≤ 2
Zinc ^{1/}	mg/L	Digestion, Inductively coupled Plasma Method	0.08	≤ 3
Sulfate ^{1/}	mg/l as SO ₄ ²⁻	Turbidimetric Method	6.05	≤ 250
Lead ^{1/}	mg/L	Digestion, Inductively coupled Plasma Method	0.004	≤ 0.01
Chromium ^{1/}	mg/L	Digestion, Inductively coupled Plasma Method	ND	≤ 0.05
Cadmium ^{1/}	mg/L	Digestion, Inductively coupled Plasma Method	ND	≤ 0.003
Mercury ^{1/}	mg/L	Cold Vapor Technique-AAS Method	ND	≤ 0.001

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L (2 bottles)]

STANDARD มาตรฐานคุณภาพน้ำประปาของการประปาส่วนภูมิภาค พ.ศ.2567

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. ^{1/} ทดสอบโดย ห้องปฏิบัติการวิเคราะห์เอกชน บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด : เลขทะเบียน ว-003
2. ND = Not Detected (ตรวจวัด ไม่พบ โดยวิธีทางห้องปฏิบัติการ)



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

0806 2026
...../...../.....

END OF REPORT

REPORTED ANALYSIS REFER TO SUMMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY

ภาคผนวกที่ 2.4

ผลการตรวจวิเคราะห์คุณภาพน้ำทะเล



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road,Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1040
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.37 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST จ-176-จ-0006)
TESTED DATE : 20/05/2026-04/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	Sea Water	STANDARD
pH at 25 ⁰ C	-	Electrometric Method	7.43	7.0 - 8.5
Total Suspended Solids	mg/L	Dried at 103-105 ⁰ C (Part 2540D)	45	*

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L, G 0.25 L]

STANDARD : ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ พ.ศ. 2564
เรื่องกำหนดมาตรฐานคุณภาพน้ำทะเล (ประเภทที่ 2 เพื่อการอนุรักษ์แหล่งปะการัง)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. * มีค่าเปลี่ยนแปลงเพิ่มขึ้นไม่เกินผลรวมของค่าเฉลี่ย 1 วัน หรือ 1 เดือน หรือ 1 ปี บวกกับค่าเบี่ยงเบนมาตรฐาน
ของค่าเฉลี่ยนั้น ๆ

Examined by Panvise Jirat

(MS.PANVISA JINRAT)

จ-176-ค-0004

08 / 06 / 2026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน จ-176

Approved by Pennapa Chanpen

(MRS. PENNAPA CHANPEN)

จ-176-ค-0003

08 / 06 / 2026

REPORTED ANALYSIS REFER TO SUMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN APPROVAL LABORATORY



TEST REPORT

CUSTOMER : Kalima Resort & Villas Khao Lak
ADDRESS : 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand
SAMPLING SOURCE : Kalima Resort & Villas Khao Lak SAMPLE NO. : 6905-1040
SAMPLING DATE : 20/05/2026 SAMPLING TIME : 08.37 AM
SAMPLING CONDITION : WATER SAMPLING BY : STC
SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-04/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	Sea Water	STANDARD
Nitrate-Nitrogen	µg-N/L	Cadmium Reduction Method	90.0	≤ 20
Ammonia-Nitrogen	µg-N/L	Distillation, Titrimetric Method	ND	≤ 100
Phosphate	µg-P/L	Ascorbic Acid Method	20.0	≤ 15
Dissolved Oxygen	mg/L	Membrane-Electrode Method	7.01	≥ 6
Salinity	ppt	Electrical Conductivity Method	21.20	≥ 10%

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L, G 0.25 L]

STANDARD : ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ พ.ศ. 2564
เรื่องกำหนดมาตรฐานคุณภาพน้ำทะเล (ประเภทที่ 2 เพื่อการอนุรักษ์แหล่งปะการัง)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. ND = Not Detected (ตรวจวัดไม่พบโดยวิธีทางห้องปฏิบัติการ)



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by

(MRS. PENNAPA CHANPEN)

08-06-2026

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TEST REPORT

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SAMPLING METHOD : GRAB (MS. JUTAPORN JUTAMAST)
TESTED DATE : 20/05/2026-04/06/2026 RECEIVED DATE : 20/05/2026
FILE NAME : Kalima Resort & Villas Khao Lak REPORTED DATE : 08/06/2026

PARAMETER	UNIT	METHOD	Sea Water	STANDARD
Total Coliform Bacteria	MPN/100 mL	MPN Test Method	5,400	≤ 1,000
Fecal Coliform Bacteria ^{/1}	CFU/100 mL	Thermololrant (Fecal) coliforms	490	≤ 70
Membrane Filter Procedure (Part 9222(D))				

PHYSICAL APPEARANCE 1. Sample : clear 2. Container : normal [PE 2.0 L, G 0.25 L]

STANDARD : ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ พ.ศ. 2564
เรื่องกำหนดมาตรฐานคุณภาพน้ำทะเล (ประเภทที่ 2 เพื่อการอนุรักษ์แหล่งปะการัง)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK 1. ^{/1} ทดสอบโดย ศูนย์บริการตรวจสอบและรับรองมาตรฐาน คณะวิทยาศาสตร์ มหาวิทยาลัยสงขลานครินทร์



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เซ้าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by 

(MRS. PENNAPA CHANPEN)

08 06 2026

END OF REPORT

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ภาคผนวกที่ 2.5

ผลการตรวจวิเคราะห์คุณภาพน้ำคลอง



TEST REPORT

CUSTOMER	: Kalima Resort & Villas Khao Lak		
ADDRESS	: 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand		
SAMPLING SOURCE ^{/3}	: Kalima Resort & Villas Khao Lak	SAMPLE NO.	: 6905-1039
SAMPLING DATE ^{/3}	: 20/05/2026	SAMPLING TIME ^{/3}	: 08.33 AM
SAMPLING CONDITION	: WATER	SAMPLING BY ^{/3}	: STC
SAMPLING METHOD ^{/3}	: GRAB	(MS. JUTAPORN JUTAMAST 3-176-จ-0006)	
TESTED DATE	: 20/05/2026-04/06/2026	RECEIVED DATE	: 20/05/2026
FILE NAME	: Kalima Resort & Villas Khao Lak	REPORTED DATE	: 08/06/2026

PARAMETER	UNIT	METHOD	น้ำคลอง "ลำรูด่วน"	STANDARD
pH at 25 ⁰ /1	-	Electrometric Method	7.42	5.0 - 9.0
BOD ₅ ^{/1}	mg/l	5-Day BOD Test, Azide modification Method	1.5	≤ 1.5
Total Suspended Solids	mg/L	Dried at 103-105 ⁰ C (Part 2540D)	33	-
Total Dissolved Solids	mg/L	Dried at 180 ⁰ C (Part 2540C)	942	-

PHYSICAL APPEARANCE 1. Sample : turbid, brown SS 2. Container : normal [PE 2.0 L, G 0.25 L]

STANDARD ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติฉบับที่ 8 (พ.ศ. 2537) เรื่อง กำหนดมาตรฐานคุณภาพน้ำในแหล่งน้ำผิวดิน (แหล่งน้ำประเภทที่ 2 เพื่อการอนุรักษ์สัตว์น้ำ การประมง การว่ายน้ำและกีฬาทางน้ำ)

ANALYSIS METHOD Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

- ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)
- ^{/2} : Out of accredited scope of private analysis laboratories 3-176
- ^{/3} : Information received from customer

Examined by Panvisa Jinrat

(MS.PANVISA JINRAT)

3-176-จ-0004

08/06/2026



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช้าเทิร์นไทยคอนซัลติ้ง จำกัด
เลขทะเบียน 3-176

Approved by Pennapa Chanpen

(MRS. PENNAPA CHANPEN)

3-176-จ-0003

08-06-2026

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TEST REPORT

CUSTOMER	: Kalima Resort & Villas Khao Lak		
ADDRESS	: 3/88 Moo 2, Petchkasem Road, Ban Khao Lak, Phangnga, Thailand		
SAMPLING SOURCE ^{/3}	: Kalima Resort & Villas Khao Lak	SAMPLE NO.	: 6905-1039
SAMPLING DATE ^{/3}	: 20/05/2026	SAMPLING TIME ^{/3}	: 08.33 AM
SAMPLING CONDITION	: WATER	SAMPLING BY ^{/3}	: STC
SAMPLING METHOD ^{/3}	: GRAB		(MS. JUTAPORN JUTAMAST)
TESTED DATE	: 20/05/2026-04/06/2026	RECEIVED DATE	: 20/05/2026
FILE NAME	: Kalima Resort & Villas Khao Lak	REPORTED DATE	: 08/06/2026

PARAMETER	UNIT	METHOD	น้ำคลอง "ลำรูด่วน"	STANDARD
Grease & Oil ^{/1}	mg/L	Liquid-Liquid, Partition-Gravimetric Method	ND	-
Sulfide ^{/1}	mg/L	Iodometric Method	ND	-
Total Kjeldahl Nitrogen ^{/1}	mg/L	Macro-Kjeldahl, Titrimetric Method	2.10	-
Settleable Solids ^{/1,2}	mL/L	Volumetric Method	0.1	-
Total Coliform Bacteria ^{/1,2}	MPN/100 mL	MPN Test Method	160,000	≤ 5,000

PHYSICAL APPEARANCE 1. Sample : turbid, brown SS 2. Container : normal [PE 2.0 L, G 0.25 L]

STANDARD

ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติฉบับที่ 8 (พ.ศ. 2537) เรื่อง กำหนดมาตรฐานคุณภาพน้ำ
ในแหล่งน้ำผิวดิน (แหล่งน้ำประเภทที่ 2 เพื่อการอนุรักษ์สัตว์น้ำ การประมง การว่ายน้ำและกีฬาทางน้ำ)

ANALYSIS METHOD

Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023

REMARK

- ^{/1} : Out of accredited scope by TISI (ISO/IEC 17025:2017)
- ^{/2} : Out of accredited scope of private analysis laboratories 3.-176
- ^{/3} : Information received from customer
- ND = Not Detected



ห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เช่าเทิร์นไทยคอนซัลติ้ง จำกัด

Approved by
(MRS. PENNAPA CHANPEN)
08-06-2026

END OF REPORT

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