

# ภาคผนวก ข-33

เอกสารการสุ่มตรวจประเมิน (Audit) หน่วยงาน  
ที่เข้ามารับของเสียไปกำจัด

## บริษัท สวนอุตสาหกรรมโรจนะ ระยอง 2 จำกัด

### ROJANA INDUSTRIAL PARK RAYONG 2 COMPANY LIMITED

54/5 หมู่ 1 ตำบลมายางพร อำเภอปลวกแดง จังหวัดระยอง 21140

54/5 MOO1 T. MAP YANGPHON A. PLUAK DAENG RAYONG 21140 THAILAND

ที่

วันที่

เรื่อง ขอความร่วมมือในการเข้าตรวจประเมินการจัดการของเสียของโรงงานอุตสาหกรรม  
ในโครงการสวนอุตสาหกรรมปลวกแดง ส่วนขยาย ครั้งที่ 1

เรียน ผู้จัดการโรงงานฯ

สิ่งที่ส่งมาด้วย 1.แบบบันทึกปริมาณขยะ

2. แบบบันทึกการตรวจสอบปริมาณขยะหรือวัสดุที่ไม่ใช้แล้ว

3. แบบบันทึกการตรวจสอบสถานที่จัดเก็บและคัดแยกขยะ

ตามที่ โครงการสวนอุตสาหกรรมปลวกแดง ส่วนขยาย ครั้งที่ 1 (โครงการฯ) ต้องจัดทำรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบคุณภาพสิ่งแวดล้อมของโครงการสวนอุตสาหกรรมปลวกแดง ส่วนขยาย ครั้งที่ 1 (ระยะดำเนินการ) (EIA Monitoring) เสนอต่สำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม (สผ.) และหน่วยงานราชการที่เกี่ยวข้อง เป็นประจำทุก 6 เดือน นั้น

ในขณะนี้ โครงการฯ อยู่ระหว่างจัดทำรายงานผลการปฏิบัติตามมาตรการฯ ระหว่างเดือนกรกฎาคม-ธันวาคม พ.ศ. 2565 ซึ่งจำเป็นต้องนำข้อมูลผลการตรวจประเมินการจัดการของเสียของโรงงานอุตสาหกรรมในโครงการฯ มาวิเคราะห์และประมวลผล ประกอบการจัดทำรายงานฯ ด้วย

ทางโครงการฯ จึงใคร่ขอความร่วมมือจากท่าน ในการขอเข้าตรวจประเมินการจัดการของเสียของโรงงานระหว่างเดือนกรกฎาคม-ธันวาคม 2565 ซึ่งมีรายละเอียดดังสิ่งที่ส่งมาด้วย หากท่านสะดวกให้ทางโครงการฯ เข้าตรวจประเมินวันใด กรุณาแจ้งกลับมาที่ E-Mail : [REDACTED] (ภายในวันที่ 31 ธ.ค. 2565) และสามารถสอบถามรายละเอียดเพิ่มเติมได้โดยตรงที่ [REDACTED] หมายเลขโทรศัพท์ [REDACTED]

จึงเรียนมาเพื่อโปรดพิจารณา ให้ความร่วมมือดังกล่าว จะขอบคุณยิ่ง

ขอแสดงความนับถือ

( [REDACTED] )

เจ้าหน้าที่สิ่งแวดล้อม

## แบบบันทึกปริมาณขยะ

บริษัท.....ประจำเดือน..... พ.ศ. ....

ลำดับ	รหัสของเสีย	รายการ / ชนิดของวัสดุที่ไม่ใช้แล้ว	ยอดยกมา	วันที่ 1	วันที่ 2	วันที่ 3	วันที่ 4	วันที่ 5	วันที่ 6	วันที่ 7	วันที่ 8	วันที่ 9	วันที่ 10	วันที่ 11
1.	07 06 08	จารบีที่ใช้จนแล้ว												
2.	13 02 08	น้ำมันหล่อลื่นใช้งานแล้ว												
3.	15 02 02	วัสดุปนเปื้อนสารเคมี / สี / น้ำมัน												
4.	15 01 10	ภาชนะปนเปื้อน												
5.	16 06 01	แบตเตอรี่												
6.	16 06 02	ถ่านไฟฉาย												
7.	16 02 15	หลอดไฟฟ้า												
8.	16 02 13	อุปกรณ์ไฟฟ้า, อิเล็กทรอนิกส์												
9.	02 04 81	กระดาดากรองปนเปื้อนสารตะกั่ว												
10.	15 01 11	กระป๋องสีสเปรย์												
11.	17 06 03	ฉนวนใยแก้วกันความร้อน												
12.	15 02 03	เรซินกรองน้ำเชื่อม												
13.	15 02 02	ถังน้ำมันเก่า (ถังเปล่า)												
14.	15 01 02	พลาสติกเก่า,เศษพลาสติก												
15.	12 01 03	เศษเหล็กเก่า												
16.	16 01 03	ยางรถยนต์เก่า												
17.	19 12 04	สายพานเก่า												
18.	16 02 16	สายไฟ/สายไฮดรอลิค												
19.	15 01 02	กระสอบน้ำตาล/ลูกตันเก่า												
20.	15 01 01	เศษกระดาษ,กระดาษลัง												

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แบบบันทึกปริมาณขยะ

บริษัท.....ประจำเดือน..... พ.ศ. ....

ลำดับ	รหัสของเสีย	รายการ / ชนิดของวัสดุที่ไม่ใช้แล้ว	ยอดยกมา	วันที่ 12	วันที่ 13	วันที่ 14	วันที่ 15	วันที่ 16	วันที่ 17	วันที่ 18	วันที่ 19	วันที่ 20	วันที่ 21	วันที่ 22
1.	07 06 08	จารบีที่ใช้จนแล้ว												
2.	13 02 08	น้ำมันหล่อลื่นใช้งานแล้ว												
3.	15 02 02	วัสดุปนเปื้อนสารเคมี / สี / น้ำมัน												
4.	15 01 10	ภาชนะปนเปื้อน												
5.	16 06 01	แบตเตอรี่												
6.	16 06 02	ถ่านไฟฉาย												
7.	16 02 15	หลอดไฟฟ้า												
8.	16 02 13	อุปกรณ์ไฟฟ้า, อิเล็กทรอนิกส์												
9.	02 04 81	กระดาษกรองปนเปื้อนสารตะกั่ว												
10.	15 01 11	กระป๋องสีสเปรย์												
11.	17 06 03	ฉนวนใยแก้วกันความร้อน												
12.	15 02 03	เรซินกรองน้ำเชื่อม												
13.	15 02 02	ถังน้ำมันเก่า (ถังเปล่า)												
14.	15 01 02	พลาสติกเก่า, เศษพลาสติก												
15.	12 01 03	เศษเหล็กเก่า												
16.	16 01 03	ยางรถยนต์เก่า												
17.	19 12 04	สายพานเก่า												
18.	16 02 16	สายไฟ/สายเคเบิลลิก												
19.	15 01 02	กระสอบน้ำตาล/ลูกตันเก่า												
20.	15 01 01	เศษกระดาษ, กระดาษลัง												

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แบบบันทึกปริมาณขยะ

บริษัท.....ประจำเดือน..... พ.ศ. ....

ลำดับ	รหัสของเสีย	รายการ / ชนิดของวัสดุที่ไม่ใช้แล้ว	ยอดยกมา	วันที่ 23	วันที่ 24	วันที่ 25	วันที่ 26	วันที่ 27	วันที่ 28	วันที่ 29	วันที่ 30	วันที่ 31	ยอดรวม
1.	07 06 08	จารบีที่ใช้จนแล้ว											
2.	13 02 08	น้ำมันหล่อลื่นใช้งานแล้ว											
3.	15 02 02	วัสดุปนเปื้อนสารเคมี / สี / น้ำมัน											
4.	15 01 10	ภาชนะปนเปื้อน											
5.	16 06 01	แบตเตอรี่											
6.	16 06 02	ถ่านไฟฉาย											
7.	16 02 15	หลอดไฟฟ้า											
8.	16 02 13	อุปกรณ์ไฟฟ้า, อิเล็กทรอนิกส์											
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10.	15 01 11	กระป๋องสีสเปรย์											
11.	17 06 03	ฉนวนใยแก้วกันความร้อน											
12.	15 02 03	เรซินกรองน้ำเชื่อม											
13.	15 02 02	ถังน้ำมันเก่า (ถังเปล่า)											
14.	15 01 02	พลาสติกเก่า,เศษพลาสติก											
15.	12 01 03	เศษเหล็กเก่า											
16.	16 01 03	ยางรถยนต์เก่า											
17.	19 12 04	สายพานเก่า											
18.	16 02 16	สายไฟ/สายไฮดรอลิค											
19.	15 01 02	กระสอบน้ำตาล/ลูกตีนเก่า											
20.	15 01 01	เศษกระดาษ,กระดาษลัง											

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บันทึกการตรวจสอบสถานที่จัดเก็บและคัดแยกขยะ

บริษัท.....ประจำเดือน.....พ.ศ.....

ลำดับ	รายการ	วันที่ตรวจ.....		วันที่ตรวจ.....		วันที่ตรวจ.....		วันที่ตรวจ.....	
		ผลการตรวจ		ผลการตรวจ		ผลการตรวจ		ผลการตรวจ	
		ผ่าน	ไม่ผ่าน	ผ่าน	ไม่ผ่าน	ผ่าน	ไม่ผ่าน	ผ่าน	ไม่ผ่าน
1.	สภาพ Bund ไม่แตกรั่ว								
2.	ผนังอาคาร และหลังคาไม่รั่ว								
3.	พื้นที่จัดเก็บเพียงพอ ต่อการจัดเก็บ								
4.	แสงสว่างภายในอาคารพร้อมใช้งาน								
5.	ป้ายบ่งชี้ประเภทของขยะแต่ละชนิด								
6.	อุปกรณ์ดับเพลิงพร้อมตอบโต้เหตุฉุกเฉิน								
7.	ร่องระบายรอบอาคาร พร้อมใช้งาน								
8.	ภาชนะบรรจุของเสีย ไม่หกกรั่วไหล								
9.	การคัดแยกและจัดเก็บถูกประเภท								
หลักเกณฑ์การตรวจสอบ		6.อุปกรณ์ดับเพลิงพร้อมตอบโต้เหตุฉุกเฉิน และตรวจเช็คสภาพถังในเอกสารตรวจเช็ค							
1.สภาพของ Bund ไม่มีการแตกและรั่ว พร้อมใช้งานกรณีเกิดการกรั่วไหล		7.ร่องระบายน้ำรอบอาคาร ไม่มีสิ่งอุดตันและพร้อมใช้งาน							
2. ผนังและหลังคาของอาคารคัดแยกขยะ ไม่รั่วซึม พร้อมใช้งาน		8.ภาชนะบรรจุของเสีย และภาชนะรองรับพร้อมใช้งานไม่แตกและหกกรั่วไหล							
3. พื้นที่การจัดเก็บขยะแต่ละประเภทเพียงพอต่อการจัดเก็บไม่เอ่อออกมานอกพื้นที่จัดเก็บ		9.การคัดแยกขยะถูกประเภทและการจัดเก็บถูกต้องตามป้ายบ่งชี้							
4.แสงสว่างภายในอาคารจัดเก็บพร้อมใช้งาน									
5.มีป้ายชี้บ่งขยะแต่ละประเภทพื้นที่จัดเก็บชัดเจน									

ผู้บันทึก.....

ผู้พบพบน.....

ผู้อนุมัติ.....(EMR)

แบบบันทึกการตรวจสอบปริมาณขยะหรือวัสดุที่ไม่ใช้แล้ว

บริษัท.....ประจำเดือน..... พ.ศ. ....

ลำดับ	รหัสของเสีย	รายการ / ชนิดของวัสดุที่ไม่ใช้แล้ว	ยอดยกมา	ปริมาณรับเข้า	ปริมาณสะสม	ปริมาณที่ส่งออก	ปริมาณคงเหลือ	เวลาสะสม
1.	07 06 08	จารบีที่ใช้จนแล้ว						
2.	13 02 08	น้ำมันหล่อลื่นใช้งานแล้ว						
3.	15 02 02	วัสดุปนเปื้อนสารเคมี / สี / น้ำมัน						
4.	15 01 10	ภาชนะปนเปื้อน						
5.	16 06 01	แบตเตอรี่						
6.	16 06 02	ถ่านไฟฉาย						
7.	16 02 15	หลอดไฟฟ้า						
8.	16 02 13	อุปกรณ์ไฟฟ้า, อิเล็กทรอนิกส์						
9.	02 04 81	กระดาษกรอปนเปื้อนสารตะกั่ว						
10.	15 01 11	กระป๋องสีสเปรย์						
11.	17 06 03	ฉนวนใยแก้วกันความร้อน						
12.	15 02 03	เรซินกรอนน้ำเชื่อม						
13.	15 02 02	ถังน้ำมันเก่า (ถังเปล่า)						
14.	15 01 02	พลาสติกเก่า, เศษพลาสติก						
15.	12 01 03	เศษเหล็กเก่า						
16.	16 01 03	ยางรถยนต์เก่า						
17.	19 12 04	สายพานเก่า						
18.	16 02 16	สายไฟ/สายไฮดรอลิค						
19.	15 01 02	กระสอบน้ำตาล/ลูกดันเก่า						
20.	15 01 01	เศษกระดาษ, กระดาษลัง						

ผู้บันทึก.....

ผู้ตรวจสอบ.....

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ภาพถ่าย

1. สภาพ Bund ไม่แตกรั่ว	1. สภาพของ Bund ไม่มีการแตกและรั่ว พร้อมใช้งานกรณีเกิด การหกรั่วไหล
2. ผนังอาคารและหลังคาไม่รั่วไหล	2. ผนังและหลังคาของอาคารคัตแยกขยะ ไม่รั่วซึม พร้อมใช้งาน
3. พื้นที่จัดเก็บเพียงพอ ต่อการจัดเก็บ	3. พื้นที่ใช้การจัดเก็บขยะแต่ละประเภทเพียงพอต่อการจัดเก็บไม่ ออกมานอกพื้นที่จัดเก็บ
4. แสงสว่างในอาคารพร้อมใช้งาน	4. แสงสว่างภายในอาคารจัดเก็บพร้อมใช้งาน
5. ป้ายบ่งชี้ประเภทของขยะแต่ละชนิด	5. มีป้ายชี้บ่งชี้ประเภทพื้นที่จัดเก็บชัดเจน
6. อุปกรณ์ดับเพลิงพร้อมได้เหตุฉุกเฉิน	6. อุปกรณ์ดับเพลิงพร้อมตอบโต้เหตุฉุกเฉิน และตรวจเช็คสภาพ ถังในเอกสารตรวจเช็ค
7. ร่องระบายรอบอาคารพร้อมใช้งาน	7. ร่องระบายน้ำรอบอาคาร ไม่มีสิ่งอุดตันและพร้อมใช้งาน
8. ภาชนะบรรจุของเสีย ไม่หกรั่วไหล	8. ภาชนะบรรจุของเสีย และภาชนะรองรับพร้อมใช้งานไม่แตก และหกรั่วไหล
9. การคัดแยกและจัดเก็บถูกประเภท	9. การคัดแยกขยะถูกประเภทและการจัดเก็บถูกตามป้ายบ่งชี้

ลงวันที่ .....

# ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์



# ภาคผนวก ค-01

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คุณภาพอากาศในบรรยากาศโดยทั่วไป



## Analysis / Test Report



TESTING

No.0042

Lot ID: 22147429

Date Received : Dec 27, 2023

Date Reported : Jan 03, 2023

Report Number: 2513350-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RIN(2)-030/65

Project Name : Phuk Daeng

Project Location :

Page 1 of 1

Sample Description	Air Quality
Location	Surinwangs (A1) (GPS 47P 0732269, 1436531)
Date Analysis Commenced	Dec 28, 2022

Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m <sup>3</sup> )	Particulate Matter (PM-10) (mg/m <sup>3</sup> )	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
22147429-1	Dec 19 - Dec 20, 2022	0.107	0.051	755	29
22147429-2	Dec 20 - Dec 21, 2022	0.180	0.074	755	30
22147429-3	Dec 21 - Dec 22, 2022	0.152	0.067	755	30
22147429-4	Dec 22 - Dec 23, 2022	0.162	0.070	755	30
22147429-5	Dec 23 - Dec 24, 2022	0.107	0.075	755	30
22147429-6	Dec 24 - Dec 25, 2022	0.075	0.062	755	30
22147429-7	Dec 25 - Dec 26, 2022	0.068	0.055	755	30

Guideline	0.33	0.12	-
-----------	------	------	---

Reference Method  
Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

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

Sampled By : Sirinwit Ruangsom

Remark :

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

Tharitat.

Approved by

Tharitat Kulsirithong

Scientist (4)

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RIN(2)-030/65

Project Name : Phuk Daeng

Project Location :

Lot ID: 22147401

Date Received : Dec 27, 2022

Date Reported : Jan 03, 2023

Report Number: 2513195-1

Page 1 of 1

Sample Description	Air Quality
Location	Surinwangs (A1) (GPS 47P 0732269, 1436531)
Parameter	Nitrogen dioxide (ppm)
Measurement Date	Dec 19, 2022 - Dec 26, 2022
Measurement by	Sirinwit Ruangsom

Time	22147401-1	22147401-2	22147401-3	22147401-4	22147401-5	22147401-6	22147401-7
11:00 AM - 12:00 PM	0.020	0.013	0.021	0.016	0.020	0.009	0.009
12:00 PM - 01:00 PM	0.015	0.014	0.018	0.016	0.018	0.010	0.012
01:00 PM - 02:00 PM	0.016	0.012	0.011	0.017	0.017	0.013	0.015
02:00 PM - 03:00 PM	0.015	0.013	0.010	0.017	0.017	0.019	0.013
03:00 PM - 04:00 PM	0.014	0.015	0.011	0.016	0.017	0.017	0.013
04:00 PM - 05:00 PM	0.015	0.018	0.013	0.016	0.014	0.020	0.012
05:00 PM - 06:00 PM	0.020	0.024	0.011	0.013	0.014	0.021	0.013
06:00 PM - 07:00 PM	0.024	0.022	0.014	0.012	0.017	0.021	0.013
07:00 PM - 08:00 PM	0.023	0.021	0.018	0.012	0.019	0.018	0.012
08:00 PM - 09:00 PM	0.035	0.021	0.018	0.010	0.018	0.016	0.011
09:00 PM - 10:00 PM	0.038	0.030	0.020	0.010	0.015	0.012	0.011
10:00 PM - 11:00 PM	0.014	0.031	0.022	0.010	0.015	0.010	0.011
11:00 PM - 12:00 AM	0.012	0.029	0.018	0.010	0.014	0.012	0.011
12:00 AM - 01:00 AM	0.021	0.024	<0.001	0.011	0.018	0.014	0.016
01:00 AM - 02:00 AM	0.023	0.020	0.017	0.015	0.017	0.012	0.021
02:00 AM - 03:00 AM	0.027	0.019	0.023	0.020	0.017	0.011	0.024
03:00 AM - 04:00 AM	0.028	0.019	0.018	0.017	0.013	0.011	0.032
04:00 AM - 05:00 AM	0.037	0.018	0.015	0.013	0.010	0.010	0.030
05:00 AM - 06:00 AM	0.018	0.016	0.013	0.010	0.009	0.008	0.027
06:00 AM - 07:00 AM	0.014	0.014	0.011	0.009	0.008	0.008	0.024
07:00 AM - 08:00 AM	0.010	0.016	0.014	0.010	0.009	0.009	0.015
08:00 AM - 09:00 AM	0.013	0.022	0.012	0.008	0.009	0.009	0.012
09:00 AM - 10:00 AM	0.018	0.019	0.012	0.014	0.009	0.009	0.008
10:00 AM - 11:00 AM	0.016	0.021	0.013	0.014	0.009	0.013	0.016
Average	0.020	0.019	0.015	0.013	0.020	0.021	0.032
1hr - Maximum	0.038	0.031	0.023	0.020	0.017	0.010	0.016
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

Standard : Notification of the National Environmental Board No. 33, 2009 (B.E. 2552).

Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

Approved by

Suranya Chienkhamrong

Scientist (4)

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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147420  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2513283-1

Page 1 of 1

Sample Description		Air Quality											
Location		Watunruang (A1) (GPS 47P 0732269, 1436531)											
Parameter		Sulfur Dioxide (ppm)											
Measurement Date		Dec 19, 2022 - Dec 26, 2022											
Measurement by		Sirikit Ruangsom											
Time		22147420-1	22147420-2	22147420-3	22147420-4	22147420-5	22147420-6	22147420-7	22147420-8	22147420-9	22147420-10	22147420-11	22147420-12
		Dec 19, 2022	Dec 20, 2022	Dec 21, 2022	Dec 22, 2022	Dec 23, 2022	Dec 24, 2022	Dec 25, 2022	Dec 26, 2022	Dec 27, 2022	Dec 28, 2022	Dec 29, 2022	Dec 30, 2022
11:00 AM - 12:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
12:00 PM - 01:00 PM		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
01:00 PM - 02:00 PM		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
02:00 PM - 03:00 PM		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
03:00 PM - 04:00 PM		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
04:00 PM - 05:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
05:00 PM - 06:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
06:00 PM - 07:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
07:00 PM - 08:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
08:00 PM - 09:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
09:00 PM - 10:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
10:00 PM - 11:00 PM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
11:00 PM - 12:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
12:00 AM - 01:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
01:00 AM - 02:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
02:00 AM - 03:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
03:00 AM - 04:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
04:00 AM - 05:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
05:00 AM - 06:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
06:00 AM - 07:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
07:00 AM - 08:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
08:00 AM - 09:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
09:00 AM - 10:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
10:00 AM - 11:00 AM		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Average		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
1hr - Maximum		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Standard 1hr - Average		0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average		0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard		0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Reference Method		: Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).											
Reference Method		: US EPA Method Part 53 and 58											

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Savanya Chalerthamrong  
Scientist (4)

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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147429  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2513350-2

Page 1 of 1

Sample Description		Air Quality			
Location		Thuanthani (A2) (GPS 47P 0734063, 1432319)			
Date Analysis Commenced		Dec 28, 2022			
Condition of Sample		Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag			
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
22147429-8	Dec 19 - Dec 20, 2022	0.056	0.037	755	29
22147429-9	Dec 20 - Dec 21, 2022	0.099	0.045	755	30
22147429-10	Dec 21 - Dec 22, 2022	0.103	0.042	755	30
22147429-11	Dec 22 - Dec 23, 2022	0.104	0.051	755	30
22147429-12	Dec 23 - Dec 24, 2022	0.098	0.058	755	30
22147429-13	Dec 24 - Dec 25, 2022	0.080	0.058	755	30
22147429-14	Dec 25 - Dec 26, 2022	0.066	0.027	755	30
Guideline		0.33	0.12	-	-

Reference Method  
Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

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

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

Approved by

*Thanita K.*

Thanita Kulsirirong  
Scientist (4)

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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147401  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534794-1

Page 1 of 1

Sample Description		Air Quality		22147401-8		22147401-9		22147401-10		22147401-11		22147401-12		22147401-13		22147401-14	
Location		Shutkanda (A2) (GPS 47P 0735330, 1436155)		Dec 19, 2022		Dec 20, 2022		Dec 21, 2022		Dec 22, 2022		Dec 23, 2022		Dec 24, 2022		Dec 25, 2022	
Parameter		Nitrogen dioxide (ppm)															
Measurement Date		Dec 19, 2022 - Dec 26, 2022															
Measurement by		Sirwit Ruangsom															
Time																	
11:00 AM - 12:00 PM		0.016		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	
12:00 PM - 01:00 PM		0.003		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	
01:00 PM - 02:00 PM		0.002		0.003		0.003		0.003		0.004		0.004		0.004		0.004	
02:00 PM - 03:00 PM		0.003		0.003		0.003		0.003		0.003		0.003		0.003		0.003	
03:00 PM - 04:00 PM		0.003		0.004		<0.001		<0.001		0.005		0.003		0.003		0.003	
04:00 PM - 05:00 PM		0.004		0.004		0.004		0.004		0.005		0.003		0.003		0.003	
05:00 PM - 06:00 PM		0.003		<0.001		0.006		0.006		0.004		0.004		0.004		0.004	
06:00 PM - 07:00 PM		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001	
07:00 PM - 08:00 PM		<0.001		0.002		0.005		0.005		0.002		0.002		0.006		0.002	
08:00 PM - 09:00 PM		0.001		0.002		0.004		0.004		0.002		0.002		0.016		0.002	
09:00 PM - 10:00 PM		<0.001		0.001		0.002		0.003		0.003		0.004		0.008		0.002	
10:00 PM - 11:00 PM		0.009		<0.001		0.003		<0.001		0.006		0.006		0.004		0.012	
11:00 PM - 12:00 AM		<0.001		0.002		0.002		0.002		0.002		0.020		0.006		0.003	
12:00 AM - 01:00 AM		0.006		0.001		0.002		0.002		0.009		0.031		0.017		0.007	
01:00 AM - 02:00 AM		0.006		<0.001		0.004		0.004		0.006		0.014		0.016		0.003	
02:00 AM - 03:00 AM		0.005		<0.001		0.004		0.004		0.004		0.012		0.023		0.002	
03:00 AM - 04:00 AM		0.004		0.001		0.004		0.004		0.003		0.015		0.016		0.003	
04:00 AM - 05:00 AM		0.009		<0.001		0.003		0.003		0.004		0.026		0.005		<0.001	
05:00 AM - 06:00 AM		0.006		0.005		0.002		0.002		0.009		0.017		0.002		<0.001	
06:00 AM - 07:00 AM		0.006		<0.001		0.007		0.007		0.010		0.012		0.001		<0.001	
07:00 AM - 08:00 AM		<0.001		0.001		0.010		0.010		0.027		0.017		<0.001		0.006	
08:00 AM - 09:00 AM		0.001		0.004		0.012		0.012		0.059		0.031		0.002		0.048	
09:00 AM - 10:00 AM		<0.001		<0.001		0.002		0.013		0.013		0.005		<0.001		0.001	
10:00 AM - 11:00 AM		<0.001		<0.001		<0.001		0.001		0.001		0.001		<0.001		0.012	
Average		0.004		0.002		0.003		0.007		0.007		0.010		0.005		0.005	
1hr - Maximum		0.016		0.005		0.012		0.050		0.050		0.031		0.023		0.048	
Standard 1hr - Average		0.170		0.170		0.170		0.170		0.170		0.170		0.170		0.170	
Standard 24 hrs - Average		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12	
Standard		: Notification of the National Environment Board No. 33, 2009 (B.E. 2552).															
Reference Method		: US EPA Method Part 50 App. F (Chemiluminescence)															

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Approved by  
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Savanya Chalermitamrong  
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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147420  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534795-1

Page 1 of 1

Sample Description		Air Quality						
Location		พื้นที่วัด (A2) (GPS 47P 0735330, 1436155)						
Parameter		Sulfur Dioxide (ppm)						
Measurement Date		Dec 19, 2022 - Dec 26, 2022						
Measurement by		Sirwit Ruangsom						
Time		22147420-8	22147420-9	22147420-10	22147420-11	22147420-12	22147420-13	22147420-14
11:00 AM - 12:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.004
12:00 PM - 01:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.004
01:00 PM - 02:00 PM		0.004	0.003	0.003	0.003	0.003	0.003	0.003
02:00 PM - 03:00 PM		0.004	0.003	0.003	0.003	0.003	0.003	0.003
03:00 PM - 04:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
04:00 PM - 05:00 PM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
05:00 PM - 06:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
06:00 PM - 07:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
07:00 PM - 08:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
08:00 PM - 09:00 PM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
09:00 PM - 10:00 PM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
10:00 PM - 11:00 PM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
11:00 PM - 12:00 AM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
12:00 AM - 01:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
01:00 AM - 02:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
02:00 AM - 03:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
03:00 AM - 04:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
04:00 AM - 05:00 AM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
05:00 AM - 06:00 AM		0.003	0.003	0.003	0.003	0.003	0.003	0.003
06:00 AM - 07:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
07:00 AM - 08:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
08:00 AM - 09:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
09:00 AM - 10:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
10:00 AM - 11:00 AM		0.003	0.003	0.003	0.003	0.003	0.004	0.003
Average		0.003	0.003	0.003	0.003	0.003	0.003	0.003
1hr - Maximum		0.004	0.003	0.003	0.003	0.003	0.004	0.004
Standard 1hr - Average		0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average		0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard		: Notification of the National Environment board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).						
References Method		: US EPA Method Part 53 and 58						



## Analysis / Test Report



Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
TESTING  
No.0042  
Lot ID: 22147429  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2513350-3

Page 1 of 1

Sample Description	Air Quality	Sample Number	Sampled Date	Total Suspended Particulate (mg/m <sup>3</sup> )	Particulate Matter (PM-10) (mg/m <sup>3</sup> )	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
Location	ฟาร์มไก่ชน (A3) (GPS 47° 07'31.864", 14°30'31.5")	22147429-15	Dec 19 - Dec 20, 2022	0.099	0.046	755	29
Date Analysis Commenced	Dec 28, 2022	22147429-16	Dec 20 - Dec 21, 2022	0.132	0.062	755	30
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag	22147429-17	Dec 21 - Dec 22, 2022	0.120	0.060	755	30
		22147429-18	Dec 22 - Dec 23, 2022	0.080	0.051	755	30
		22147429-19	Dec 23 - Dec 24, 2022	0.096	0.063	755	30
		22147429-20	Dec 24 - Dec 25, 2022	0.070	0.056	755	30
		22147429-21	Dec 25 - Dec 26, 2022	0.096	0.057	755	30
Guideline				0.33	0.12		

Reference Method  
Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J  
Guideline : Notification of the National Environmental Board, No.24, 2004 (B.E.2547) dated September 22, 2004  
Sampled By : Siriwit Ruangsom  
Remark :  
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Approved by

Thanitak

Thanitak Kulsirirong  
Scientist (S)

The above results are valid only for the analyzed sample(s) as indicated in the Laboratory Report. No other use or interpretation of the results without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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83542 / 1946 S:\Reports\AL\Analog\7Days\04\1102844



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Lot ID: 22147401  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2514796-1

Page 1 of 1

Sample Description	Air Quality	22147401-15										22147401-16										22147401-17										22147401-18										22147401-19										22147401-20										22147401-21																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Location	ฟาร์มไก่ชน (A3) (GPS 47° 07'31.864", 14°30'31.5")	Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong dioxide (ppm)										Nirong 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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147420  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534802-1

Page 1 of 1

Sample Description		Air Quality		Location		Measurement by		Time		22147420-15		22147420-16		22147420-17		22147420-18		22147420-19		22147420-20		22147420-21	
Location		Sulfur Dioxide (ppm)		Siwit Ruangsom		Dec 19, 2022		Dec 20, 2022		Dec 21, 2022		Dec 22, 2022		Dec 23, 2022		Dec 24, 2022		Dec 25, 2022		Dec 26, 2022		Dec 27, 2022	
11:00 AM - 12:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
12:00 PM - 01:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
01:00 PM - 02:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
02:00 PM - 03:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
03:00 PM - 04:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
04:00 PM - 05:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
05:00 PM - 06:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
06:00 PM - 07:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
07:00 PM - 08:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
08:00 PM - 09:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
09:00 PM - 10:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
10:00 PM - 11:00 PM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
11:00 PM - 12:00 AM		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
12:00 AM - 01:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
01:00 AM - 02:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
02:00 AM - 03:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
03:00 AM - 04:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
04:00 AM - 05:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
05:00 AM - 06:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
06:00 AM - 07:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
07:00 AM - 08:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
08:00 AM - 09:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
09:00 AM - 10:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
10:00 AM - 11:00 AM		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
Average		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
1hr - Maximum		0.003		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.002		0.003	
Standard 1hr - Average		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3	
Standard 24 hrs - Average		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12	
Standard		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12		0.12	
Reference Method		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58		US EPA Method Part 53 and 58	

Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).

The above results are valid only for the analyzed/monitored sample(s) as indicated in this report. The use of these results for other purposes is not recommended without written consent from the Laboratory. ALS Laboratory Group (Thailand) Ltd. strongly recommends that this report is not reproduced except in full.

Approved by

*Sarinya Chalemitamrong*

Sarinya Chalemitamrong  
Scientist (4)

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company



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NIGHT SOLUTIONS NIGHT PARTITION

S:Vaporn/Air Ambient/Daypart (4:30PM)

8:35-02 (MAL)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147429  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2513350-4





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID : 22147425  
Date Received : Dec 27, 2022  
Date Reported : Dec 29, 2022  
Report Number : 2513305-1

Page 1 of 2

Sample Number : 22147425-1 to 7  
Parameter : Wind Speed / Wind Direction  
Location : ตำบลบ้านใหม่ (GPS 47° 07'31.864", 143°03'15")  
Sampling Date : Dec 19 - Dec 26, 2022  
Sampling by : สิริวิทย์ รุ่งเรืองศรี 7-325-9-9475

Time	Dec 19 - Dec 20, 2022		Dec 20 - Dec 21, 2022		Dec 21 - Dec 22, 2022		Dec 22 - Dec 23, 2022		Dec 23 - Dec 24, 2022		Dec 24 - Dec 25, 2022		Dec 25 - Dec 26, 2022						
	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)					
12:00 PM - 01:00 PM	0.2	-	0.6	37.0	NE	0.8	63.0	ENE	0.9	121.0	ESE	0.0	-	0.5	347.0	NNW	0.0	-	
01:00 PM - 02:00 PM	0.7	43.0	NE	0.6	350.0	N	0.2	-	0.9	308.0	NW	0.1	-	0.8	88.0	E	0.0	-	
02:00 PM - 03:00 PM	0.7	55.0	E	0.4	118.0	ESE	0.2	-	0.8	65.0	ENE	0.0	-	0.3	54.0	NE	1.3	217.0	SW
03:00 PM - 04:00 PM	0.8	53.0	NE	0.0	-	0.0	-	0.0	-	0.5	137.0	SE	0.0	-	0.3	218.0	SW	-	-
04:00 PM - 05:00 PM	0.0	-	0.1	-	0.0	-	0.0	-	0.2	-	0.9	246.0	WSW	0.5	222.0	SW	0.2	-	-
05:00 PM - 06:00 PM	0.4	53.0	NE	0.0	-	0.5	63.0	ENE	0.2	-	0.0	-	0.2	-	0.0	-	0.0	-	-
06:00 PM - 07:00 PM	0.0	-	0.0	-	0.0	-	0.5	190.0	S	0.0	-	0.0	-	0.0	-	0.5	217.0	SW	-
07:00 PM - 08:00 PM	0.0	-	0.2	-	0.2	-	0.2	-	0.0	-	0.9	260.0	W	0.2	-	0.6	215.0	SW	-
08:00 PM - 09:00 PM	0.2	-	0.2	-	0.0	-	0.0	-	0.3	186.0	S	0.5	260.0	W	0.3	48.0	NE	0.2	-
09:00 PM - 10:00 PM	0.2	-	0.0	-	0.0	-	0.0	-	0.0	-	0.2	-	0.0	-	0.0	-	0.0	-	-
10:00 PM - 11:00 PM	0.1	-	0.3	68.0	ENE	0.2	-	0.5	187.0	S	0.2	-	0.0	-	0.2	-	0.2	-	-
11:00 PM - 12:00 AM	1.2	57.0	ENE	0.0	-	0.2	-	0.3	189.0	S	0.0	-	0.0	-	0.0	-	0.1	-	-
12:00 AM - 01:00 AM	1.1	55.0	NE	2.2	68.0	ENE	0.1	-	0.3	190.0	S	0.2	-	0.2	-	0.0	-	0.1	-
01:00 AM - 02:00 AM	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.2	-	0.0	-	1.1	48.0	NE	0.1	-
02:00 AM - 03:00 AM	0.0	-	2.2	67.0	ENE	0.0	-	0.2	-	0.0	-	0.0	-	1.2	56.0	NE	0.0	-	-
03:00 AM - 04:00 AM	0.3	51.0	NE	1.1	68.0	ENE	0.2	-	0.0	-	0.2	-	0.0	-	0.0	-	0.2	-	-
04:00 AM - 05:00 AM	0.0	-	0.2	-	0.2	-	1.2	216.0	SW	1.1	187.0	S	0.1	-	0.0	-	0.0	-	-
05:00 AM - 06:00 AM	0.2	-	0.0	-	0.0	-	1.1	217.0	SW	1.2	188.0	S	0.0	-	0.3	136.0	SE	0.2	-
06:00 AM - 07:00 AM	0.0	-	0.3	67.0	ENE	0.0	-	0.0	-	0.1	-	0.1	-	0.0	-	0.0	-	0.0	-
07:00 AM - 08:00 AM	0.2	-	0.0	-	0.0	-	0.0	-	0.2	-	0.0	-	0.0	-	0.5	165.0	NNE	0.0	-
08:00 AM - 09:00 AM	0.4	70.0	ENE	0.2	-	0.1	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-
09:00 AM - 10:00 AM	0.4	42.0	NE	0.4	56.0	NE	0.7	78.0	ENE	0.0	-	0.2	-	0.2	-	0.6	20.0	NNE	-
10:00 AM - 11:00 AM	0.6	226.0	SW	1.3	68.0	ENE	0.3	111.0	ESE	0.2	-	0.9	22.0	NNE	0.7	41.0	NE	0.2	-
11:00 AM - 12:00 PM	0.4	353.0	N	0.1	-	0.8	77.0	NE	0.1	-	0.7	58.0	ENE	0.0	-	0.0	-	0.2	-

Reference Method : Cup Anemometer & Anodized Aluminum Vane Method

The above results are valid only for the wind speed and direction (as indicated in this report). No part of this report or certificate may be reproduced in any form without written consent from the laboratory. A Laboratory Group (Thailand) is strongly recommended for this report to be reproduced in any form.

Approved by

Sarayuth Jitramont  
Assistant General Manager

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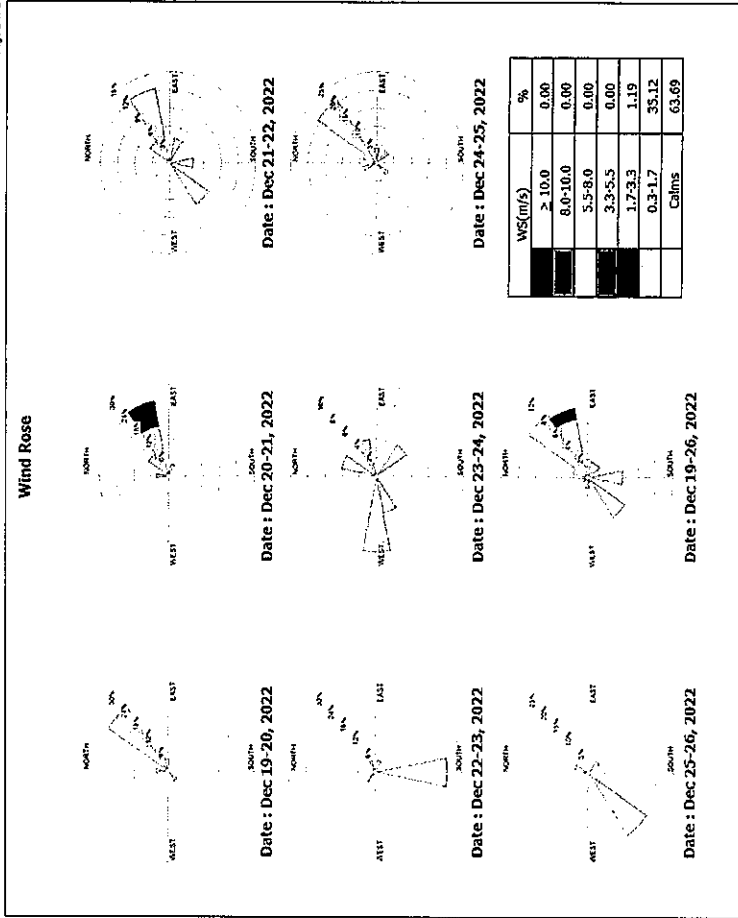
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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID : 22147425  
Date Received : Dec 27, 2022  
Date Reported : Dec 29, 2022  
Report Number : 2513305-1

Page 2 of 2



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Approved by

Sarayuth Jitramont  
Assistant General Manager

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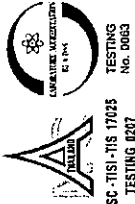
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## ภาคผนวก ค-02

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คุณภาพน้ำเสียก่อนเข้าระบบส่วนกลางทางชีวภาพ  
ของสวนอุตสาหกรรมปลวกแดง  
และคุณภาพน้ำทิ้งภายหลังผ่านการบำบัดแล้ว



United Analyst and Engineering Consultant Co., Ltd.  
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NSC-TISI-TIS 17025  
TESTING 0207

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALY TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : duedee\_jpy@hotmail.com  
**SAMPLING SOURCE** : PLUAK DAENG  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 10:50 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STERILE TECHNIQUE  
**SAMPLING BY** : MR NAWASIT SRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WATTHONG

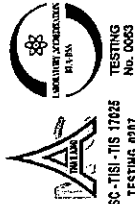
**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYSIS DATE** : AUGUST 3-13, 2022  
**REPORT NO.** : 2022-0052897  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AP155-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AP155-0001	REGULATORY STANDARD	DETECTION LIMIT
pH °	-	ELECTROMETRIC METHOD AT SITE (SM 2550 B) (SM 4500-H+ B)	7.5 (28°C)	5.5-9.0	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM 2550 B)	28	≤ 40	-
COLOUR (ORIGINAL pH) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2120 F)	41	≤ 300	10
COLOUR (pH 7.0) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2120 F)	38	≤ 300	10
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEXEMER ELECTRODE METHOD (SM 4500-O-G AND 5210 B)	23.3	≤ 500	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	69.2	≤ 750	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	24.0	≤ 200	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 80 °C (SM 2540 C)	226	≤ 3,000	25
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM 4500-S+ F)	< 0.50	-	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE-TP-WAS-001 (KJELDAHL METHOD): SM 4500-Norg C	42.4	≤ 100	1.5
FAT, OIL AND GREASE °	mg/L	SOX-HLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
CYANIDE °	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CY C AND 4500 -CN E)	ND	-	0.005
FORMALDEHYDE °	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.46	≤ 10	0.05
PHENOLS °	mg/L	DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM 5530 B AND 5530 D)	ND	≤ 10	0.1
NITRATE °	mg/L NO <sub>3</sub>	CADMIUM REDUCTION METHOD (SM 4500 -NO <sub>3</sub> E)	0.44	-	0.09
AMMONIA-NITROGEN °	mg/L NH <sub>3</sub> -N	KJELDAHL METHOD (SM 4500-NH <sub>3</sub> B AND 4500-NH <sub>3</sub> C)	35.5	-	1.5
RESIDUAL FREE CHLORINE °	mg/L Cl <sub>2</sub>	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	≤ 10	0.1

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NSC-TISI-TIS 17025  
TESTING 0207

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AP155-0001	REGULATORY STANDARD	DETECTION LIMIT
METALS					
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	0.0008	≤ 0.25	0.0003
SELENIUM °	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	ND	≤ 0.02	0.0005
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	ND	≤ 0.005	0.0005
TRIVALENT CHROMIUM °	mg/L Cr <sup>3+</sup>	NITRIC ACID DIGESTION, DIRECT AIR ACETYLENE FLAME COLOURIMETRIC (SM 3030 E 3111 B AND 3500-C B) AND CALCULATION METHOD	ND	≤ 0.75	0.007
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3500-C B)	ND	≤ 0.25	0.008
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.273	≤ 5.0	0.010
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.680	≤ 1.0	0.005
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.007	≤ 2.0	0.001
IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	1.45	≤ 10.0	0.002
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.002	≤ 0.2	0.002
MANGANESE °	mg/L Mn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.071	≤ 5.0	0.001
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.064	≤ 1.0	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 1.0	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.900	≤ 5.0	0.001

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2022-0052897



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AP156-0001	REGULATORY STANDARD	DETECTION LIMIT
<b>MICROBIOLOGY</b>					
COLIFORM BACTERIA <sup>a</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 921 B)	>60,000	-	18
FACIAL COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 921 E)	>60,000	-	18
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (OSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.27259 AND NO.42560.

ND : NON-DETECTABLE.

*Panyawan V.*  
 (MISS BENJAWAN VIRIYOTHAI)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022

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2022-U062887

# ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 E-mail : dussidee\_koy@hotmail.com  
**SAMPLING SOURCE** : PUAK DAENG  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 11:25 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STRIKE TECHNIQUE  
**SAMPLING BY** : MR NAWASIT SRUPIM  
**ANALYZED BY** : MISS PORNPIMOL WATTIYONG  
**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-15, 2022  
**REPORT NO.** : 2022-U062888  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AP156-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AP156-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	10.0 (25°C)	5.5-9.0	-
TEMPERATURE <sup>c</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	29	≤ 40	-
FLOW RATE <sup>c</sup>	m <sup>3</sup> /s	CURRENT METER AND CALCULATION	-	-	-
DISSOLVED OXYGEN <sup>c</sup>	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM 4500-O <sub>2</sub> G)	8.0	-	0.5
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	3.4	≤ 20	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM 5220 D)	34.5	≤ 120	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	11.9	≤ 50	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 80 °C (SM 2540 C)	229	≤ 3,000	25
SULPHIDE <sup>b</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	<0.50	≤ 1	0.50
TOTAL KjELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAT-TP-WAS 001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	<LOQ	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 5	3
CYANIDE <sup>c</sup>	mg/L CN <sup>-</sup>	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500 -CN E)	0.008	≤ 0.2	0.005
FLUORIDE <sup>c</sup>	mg/L F <sup>-</sup>	ION-SELECTIVE ELECTRODE METHOD (SM: 4500-F C)	0.94	-	0.04
FORMALDEHYDE <sup>c</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	ND	≤ 1	0.05
PHENOLS <sup>c</sup>	mg/L	DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM 5530 B AND 5530 D)	ND	≤ 1	0.1
CHLORIDE AS CHLORINE <sup>c</sup>	mg/L Cl <sup>-</sup>	ARGENTOMETRIC METHOD (SM 4500-Cl B)	36.7	-	2.0
FREE CHLORINE <sup>c</sup>	mg/L Cl <sub>2</sub>	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	≤ 1	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AP156-0002	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDROGEN GENERATION AAS METHOD (SM 3114 C)	0.0006	≤ 0.25	0.0003
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	ND	≤ 0.005	0.0005
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3500-Cr B)	ND	≤ 0.25	0.006
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.050	-	0.010
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 2.0	0.001
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.004	≤ 1.0	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	-	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.011	≤ 5.0	0.001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AP156-0002	REGULATORY STANDARD	DETECTION LIMIT
TOTAL IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.019	-	0.002
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID					
SEDIMENT			GREEN/CLEAR GREEN		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
 b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
 c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.  
 SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD FOR CONTROL THE EFFLUENT FROM INDUSTRIAL PLANTS, INDUSTRIAL ESTATE AND INDUSTRIAL ZONES, NOTIFICATION OF THE MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT  
 B.E. 2559 (2016) AND INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY  
 OF INDUSTRY B.E. 2560 (2017).

ND : NON-DETECTABLE.  
 < LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

*Benjawan V.*  
 (MISS BENJAWAN VIRYOTHAI)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022



United Analyst and Engineering Consultant Co., Ltd.

350 Udomsuk 41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260

Tel 02 763 2828 Fax 02 763 2800 www.uaeconsultant.com E-mail: uaec@uaeconsultant.com

TESTING 0207

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 25TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussdee\_kpy@hotmail.com  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLE DATE** : SEPTEMBER 8, 2022  
**SAMPLING TIME** : 10:30 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STERILE TECHNIQUE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WANNTHONG

**RECEIVED DATE** : SEPTEMBER 8, 2022  
**ANALYTICAL DATE** : SEPTEMBER 8-16, 2022  
**REPORT NO.** : 2022-U073107  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AR711-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AR711-0001	REGULATORY STANDARD	DETECTION LIMIT
pH °	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H B)	7.2 (28°C)	5.5-9.0	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM-2560 B)	28	≤ 40	-
COLOUR (ORIGINAL pH) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM-2200 F)	28	≤ 300	10
COLOUR (pH 7.0) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM-2200 F)	23	≤ 300	10
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-D G AND 6270 B)	7.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	415	≤ 750	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	27.1	≤ 200	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	179	≤ 3,000	25
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM-4500-S F)	< 0.50	-	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE/TP-WAS/001 (KJELDAHL METHOD); SM-4500-N609 C	15.0	≤ 100	1.5
FAT, OIL AND GREASE °	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
CYANIDE °	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM-4500-CN C AND 4500-CN E)	ND	-	0.005
FORMALDEHYDE °	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	ND	≤ 10	0.05
PHENOLS °	mg/L	DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM-5530 B AND 5530 D)	ND	≤ 10	0.1
NITRATE °	mg/L NO <sub>3</sub>	CADMIUM REDUCTION METHOD (SM-4500-NO <sub>3</sub> E)	17.9	-	0.09
AMMONIA-NITROGEN °	mg/L NH <sub>3</sub> -N	KJELDAHL METHOD (SM-4500-NH <sub>3</sub> B AND 4500-NH <sub>3</sub> C)	11.8	-	1.5
RESIDUAL FREE CHLORINE °	mg/L Cl <sub>2</sub>	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	≤ 10	0.1

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Tel 02 763 2828 Fax 02 763 2800 www.uaeconsultant.com E-mail: uaec@uaeconsultant.com

TESTING 0207

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AR711-0001	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM-3114 C)	0.0023	≤ 0.25	0.0003
SELENIUM °	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM-3114 C)	ND	≤ 0.02	0.0005
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM-3112 B)	0.0005	≤ 0.005	0.0005
TRIVALENT CHROMIUM °	mg/L Cr <sup>3+</sup>	NITRIC ACID DIGESTION, DIRECT AIR ACETYLENE FLAME, COLOURIMETRIC (SM-3030 E, 3111 B AND 3030-C F) AND CALCULATION METHOD	ND	≤ 0.75	0.007
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM-3500-C F B)	ND	≤ 0.25	0.006
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.426	≤ 5.0	0.010
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.051	≤ 10	0.005
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.008	≤ 2.0	0.001
IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.871	≤ 10.0	0.002
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	ND	≤ 0.2	0.002
MANGANESE °	mg/L Mn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.033	≤ 5.0	0.001
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.018	≤ 10	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	ND	≤ 10	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM-3030 F AND 3120 B)	0.084	≤ 5.0	0.001

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2022-U073107

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AR711-0001	REGULATORY STANDARD	DETECTION LIMIT
MICROBIOLOGY					
COLIFORM BACTERIA <sup>a</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221B)	>160,000	-	18
FACAL COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221B)	35,000	-	18
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO. 22559 AND NO. 12980.

ND : NON-DETECTABLE.

*Pajanan V.*  
 (MISS BENJAWAN VIRIYOTHAI)  
 LABORATORY SUPERVISOR

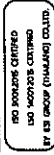
SEPTEMBER 21, 2022

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2022-1073107



# ANALYSIS REPORT

CUSTOMER NAME : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
 ADDRESS : 2034/115 25TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310

CONTACT INFORMATION : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com

SAMPLING SOURCE : PLUAK DAENG

SAMPLE TYPE : EFFLUENT

SAMPLING DATE : SEPTEMBER 8, 2022

SAMPLING TIME : 10:50 HOUR

SAMPLING METHOD<sup>c</sup> : GRAB, GRAB AND STERILE TECHNIQUE

SAMPLING BY<sup>c</sup> : MR. THANADET WANSANOR

ANALYZED BY : MISS PORNPIMOL WANNTHONG

RECEIVED DATE : SEPTEMBER 8, 2022

ANALYTICAL DATE : SEPTEMBER 8-16, 2022

REPORT NO. : 2022-1073109

WORK NO. : 2022-005655

ANALYSIS NO. : T22AR711-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AR711-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	9.2 (30°C)	5.5-9.0	-
TEMPERATURE <sup>c</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	30	≤ 40	-
FLOW RATE <sup>c</sup>	m <sup>3</sup> /s	CURRENT METER AND CALCULATION	-	-	-
DISSOLVED OXYGEN <sup>c</sup>	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM 4500-O <sub>2</sub> G)	4.4	-	0.5
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	4.8	≤ 20	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	37.0	≤ 120	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	14.3	≤ 50	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	269	≤ 3,000	25
SULPHIDE <sup>b</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	< 0.50	≤ 1	0.50
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: USE ITP WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	5.2	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 5	3
CYANIDE <sup>c</sup>	mg/L CN <sup>-</sup>	DISTILLATION PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500- CN E)	ND	≤ 0.2	0.005
FLUORIDE <sup>c</sup>	mg/L F <sup>-</sup>	ION-SELECTIVE ELECTRODE METHOD (SM 4500-F C)	1.12	-	0.04
FORMALDEHYDE <sup>c</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	ND	≤ 1	0.05
PHENOLS <sup>c</sup>	mg/L	DISTILLATION, 4-AMINOANTHRACENE METHOD (SM 5530 B AND 5530 D)	ND	≤ 1	0.1
CHLORIDE AS CHLORINE <sup>c</sup>	mg/L Cl <sup>-</sup>	ARGENTOMETRIC METHOD (SM 4500-Cl B)	35.7	-	2.0
FREE CHLORINE <sup>c</sup>	mg/L Cl <sub>2</sub>	DIP FERROUS TITRIMETRIC METHOD (SM 4500-Cl F)	ND	≤ 1	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AR713-0002	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC <sup>c</sup>	mg/L As	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	0.0015	≤ 0.25	0.0003
MERCURY <sup>c</sup>	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	ND	≤ 0.005	0.0005
HEXAVALENT CHROMIUM <sup>c</sup>	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3900-Cr B)	ND	≤ 0.25	0.006
ALUMINIUM <sup>c</sup>	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.070	-	0.010
CADMIUM <sup>c</sup>	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER <sup>c</sup>	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.002	≤ 2.0	0.001
LEAD <sup>c</sup>	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
NICKEL <sup>c</sup>	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.012	≤ 1.0	0.001
SILVER <sup>c</sup>	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	-	0.005
ZINC <sup>c</sup>	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.028	≤ 5.0	0.001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AR713-0002	REGULATORY STANDARD	DETECTION LIMIT
TOTAL IRON <sup>c</sup>	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.199	-	0.002
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT			GREEN/CLEAR GREEN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD FOR CONTROL THE EFFLUENT FROM INDUSTRIAL PLANTS, INDUSTRIAL ESTATE AND INDUSTRIAL ZONES, NOTIFICATION OF THE MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT B.E. 2559 (2016) AND INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2560 (2017).

ND : NON-DETECTABLE.

*Payanon V.*  
(MISS BENJAWAN VIRIYOTHAI)  
LABORATORY SUPERVISOR

SEPTEMBER 21, 2022

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2022-U073109



### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/4115 26TH FLOOR ITALYTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6798 e-mail : dussadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : WASTEWATER  
**SAMPLE TYPE** : PLUAK DAENG  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 11:15 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STERILE TECHNIQUE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPOL WAKNTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-17, 2022  
**REPORT NO.** : 2022-U081836  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AT925-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AT925-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.0 (6°C)	5.5-9.0	-
TEMPERATURE <sup>c</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	30	≤ 40	-
COLOUR (ORIGINAL PH) <sup>b</sup>	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2120 F)	28	≤ 300	10
COLOUR (pH 7.0) <sup>b</sup>	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2120 F)	27	≤ 300	10
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	3.2	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	26.7	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	14.0	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	170	≤ 3,000	25
SULPHIDE <sup>b</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	< 0.50	-	0.50
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE TP VAS 001 (KJELDAHL METHOD); SM 4500-Norg C	23.9	≤ 400	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
CYANIDE <sup>c</sup>	mg/L CN <sup>-</sup>	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500-CN E)	0.007	-	0.005
FORMALDEHYDE <sup>c</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	ND	≤ 1.0	0.05
PHENOLS <sup>c</sup>	mg/L	DISTILLATION, 4-AMINOANTHRACENE METHOD (SM 5530 B AND 5530 D)	ND	≤ 1.0	0.1
NITRATE <sup>c</sup>	mg/L NO <sub>3</sub> <sup>-</sup>	CADMIUM REDUCTION METHOD (SM 4500-NO <sub>3</sub> -F)	16.5	-	0.09
AMMONIA-NITROGEN <sup>b</sup>	mg/L NH <sub>3</sub> -N	KJELDAHL METHOD (SM 4500-NH <sub>3</sub> B AND 4500-NH <sub>3</sub> C)	216	-	1.5
RESIDUAL FREE CHLORINE <sup>c</sup>	mg/L Cl <sub>2</sub>	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	≤ 1.0	0.1

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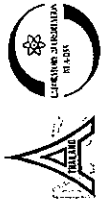
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ISO 14001:2015 CERTIFIED  
BY RS GROUP (THAILAND) CO., LTD.

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AT925-0001	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC <sup>c</sup>	mg/L As	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	0.0023	≤ 0.25	0.0003
SELENIUM <sup>c</sup>	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	ND	≤ 0.02	0.0005
MERCURY <sup>c</sup>	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	0.0010	≤ 0.005	0.0005
TRIVALENT CHROMIUM <sup>c</sup>	mg/L Cr <sup>3+</sup>	NITRIC ACID DIGESTION, DIRECT AIR ACETYLENE FLAME COLOURIMETRIC (SM 3030 E, 3111 B AND 3500 C, B) AND CALCULATION METHOD	ND	≤ 0.75	0.007
HEXAVALENT CHROMIUM <sup>c</sup>	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3500-Cr B)	ND	≤ 0.25	0.005
ALUMINIUM <sup>c</sup>	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.329	≤ 5.0	0.10
BARIUM <sup>c</sup>	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.077	≤ 1.0	0.005
CADMIUM <sup>c</sup>	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER <sup>c</sup>	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.004	≤ 2.0	0.001
IRON <sup>c</sup>	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.539	≤ 10.0	0.002
LEAD <sup>c</sup>	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
MANGANESE <sup>c</sup>	mg/L Mn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.055	≤ 5.0	0.001
NICKEL <sup>c</sup>	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.020	≤ 1.0	0.001
SILVER <sup>c</sup>	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 1.0	0.005
ZINC <sup>c</sup>	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.052	≤ 5.0	0.001

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BY RS GROUP (THAILAND) CO., LTD.



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AT925-0001	REGULATORY STANDARD	DETECTION LIMIT
MICROBIOLOGY					
COLIFORM BACTERIA <sup>a</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221 B)	>160,000	-	1.8
FACAL COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221 E)	92,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/TURBID		
SEDIMENT			BROWN		

<sup>a</sup>: ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup>: ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup>: VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

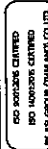
NO.272559 AND NO.12560.

ND : NON-DETECTABLE.

*Peyman V.*  
(MISS BEUWAN VITVITHAI)  
LABORATORY SUPERVISOR

OCTOBER 25, 2022

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2022-U081836



# ANALYSIS REPORT

CUSTOMER NAME : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED

ADDRESS : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310

CONTACT INFORMATION : TEL : 0 2318 6788 e-mail : dssae@kpi@hotmail.com

SAMPLE SOURCE : PUAJ DAENG

SAMPLE TYPE : EFFLUENT

SAMPLE DATE : OCTOBER 6, 2022

SAMPLE TIME : 11:45 HOUR

SAMPLE METHOD<sup>a</sup> : GRAB, GRAB AND STERILE TECHNIQUE

SAMPLE BY<sup>c</sup> : MR THANADET WANSANOR

ANALYZED BY : MISS PORNPIMOL WAENTHONG

RECEIVED DATE : OCTOBER 6, 2022

ANALYTICAL DATE : OCTOBER 6-19, 2022

REPORT NO. : 2022-U081837

WORK NO. : 2022-005655

ANALYSIS NO. : T22AT925-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AT925-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H B)	10.0 (3TC)	5.5-9.0	-
TEMPERATURE <sup>c</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	31	≤ 40	-
FLOW RATE <sup>c</sup>	m <sup>3</sup> /s	CURRENT METER AND CALCULATION	-	-	-
DISSOLVED OXYGEN <sup>c</sup>	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM 4500-O G)	9.1	-	0.5
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 520 B)	5.1	≤ 20	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	40.1	≤ 120	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	14.2	≤ 50	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 80 °C (SM 2540 C)	252	≤ 3,000	25
SULPHIDE <sup>b</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2</sup> F)	< 0.50	≤ 1	0.50
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE TP WAS 001 (KJELDAHL METHOD); SM 4500-Norg C	< LOQ	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 5	3
CYANIDE <sup>c</sup>	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500 -CN E)	0.006	≤ 0.2	0.005
FLUORIDE <sup>c</sup>	mg/L F	ION-SELECTIVE ELECTRODE METHOD (SM 4500-F C)	104	-	0.04
FORMALDEHYDE <sup>c</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.06	≤ 1	0.05
PHENOLS <sup>c</sup>	mg/L	DISTILLATION, 4-AMINOCANTHRAQUINONE METHOD (SM 5550 B AND 5550 D)	ND	≤ 1	0.1
CHLORIDE AS CHLORINE <sup>c</sup>	mg/L Cl	ARGENTOMETRIC METHOD (SM 4500-Cl B)	30.6	-	2.0
FREE CHLORINE <sup>c</sup>	mg/L Cl <sub>2</sub>	DPO FERROUS TITRIMETRIC METHOD (SM 4500-Cl F)	ND	≤ 1	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AT925-0002	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM 314 C)	0.0016	≤ 0.25	0.0003
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM 312 B)	0.0009	≤ 0.005	0.0005
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3500-Cr B)	ND	≤ 0.25	0.006
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.046	-	0.010
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.001	≤ 2.0	0.001
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.017	≤ 10	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	-	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.028	≤ 5.0	0.001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AT925-0002	REGULATORY STANDARD	DETECTION LIMIT
TOTAL IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.049	-	0.002
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID					
SEDIMENT					
YELLOW/TURBID GREEN					

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD FOR CONTROL THE EFFLUENT FROM INDUSTRIAL PLANTS, INDUSTRIAL ESTATE AND

INDUSTRIAL ZONES, NOTIFICATION OF THE MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

B.E. 2559 (2016) AND INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY

OF INDUSTRY B.E. 2560 (2017).

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTIFICATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

*Benjawan V.*  
 (MISS BENJAWAN VIRIYOTHAI)  
 LABORATORY SUPERVISOR

OCTOBER 25, 2022

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 25TH FLOOR ITALITAL TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : PUSAK DAENG  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 12:10 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STERILE TECHNIQUE  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS AMONRAT PUTALAE

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-U090064  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AV943-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AV943-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.4 (29°C)	5.5-9.0	-
TEMPERATURE <sup>c</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	28	≤ 40	-
COLOUR (ORIGINAL pH) <sup>b</sup>	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2120 F)	29	≤ 300	10
COLOUR (pH 7.0) <sup>b</sup>	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM 2200 F)	28	≤ 300	10
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	6.3	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	614	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	13.6	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	304	≤ 3,000	25
SULPHIDE <sup>b</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	< 0.50	-	0.50
TOTAL KJELDAHL NITROGEN <sup>a</sup>	mg/L	IN-HOUSE METHOD: UAE TP WAS 001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	24.3	≤ 700	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
CYANIDE <sup>c</sup>	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500 -CN E)	0.038	-	0.005
FORMALDEHYDE <sup>c</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.06	≤ 1.0	0.05
PHENOLS <sup>c</sup>	mg/L	DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM 5530 B AND 5530 D)	ND	≤ 1.0	0.1
NITRATE <sup>c</sup>	mg/L NO <sub>3</sub>	CADMIUM REDUCTION METHOD (SM 4500 -NO <sub>3</sub> E)	48.3	-	0.09
AMMONIA-NITROGEN <sup>b</sup>	mg/L NH <sub>3</sub> -N	KJELDAHL METHOD (SM 4500-NH <sub>3</sub> B AND 4500-NH <sub>3</sub> C)	18.5	-	15
RESIDUAL FREE CHLORINE <sup>c</sup>	mg/L Cl <sub>2</sub>	MODIFIED DPO COLOURIMETRIC METHOD (AT SITE)	ND	≤ 1.0	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AV943-0001	REGULATORY STANDARD	DETECTION LIMIT
METALS					
ARSENIC <sup>c</sup>	mg/L As	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	0.0017	≤ 0.25	0.0003
SELENIUM <sup>c</sup>	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM 3114 C)	ND	≤ 0.02	0.0005
MERCURY <sup>c</sup>	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	0.0008	≤ 0.005	0.0005
TRIVALENT CHROMIUM <sup>c</sup>	mg/L Cr <sup>3+</sup>	NITRIC ACID DIGESTION, DIRECT AIR ACETYLENE FLAME COLOURIMETRIC (SM 3030 E, 3111 B AND 3500-C <sup>3+</sup> B) AND CALCULATED METHOD	ND	≤ 0.75	0.007
HEXAVALENT CHROMIUM <sup>c</sup>	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3500-C <sup>6+</sup> B)	ND	≤ 0.25	0.006
ALUMINIUM <sup>c</sup>	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.082	≤ 5.0	0.010
BARIUM <sup>c</sup>	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.102	≤ 1.0	0.005
CADMIUM <sup>c</sup>	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER <sup>c</sup>	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.011	≤ 2.0	0.001
IRON <sup>c</sup>	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.006	≤ 10.0	0.002
LEAD <sup>c</sup>	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
MANGANESE <sup>c</sup>	mg/L Mn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.059	≤ 5.0	0.001
NICKEL <sup>c</sup>	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.040	≤ 1.0	0.001
SILVER <sup>c</sup>	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 1.0	0.005
ZINC <sup>c</sup>	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.116	≤ 5.0	0.001

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2022-U090064

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22A943-0001	REGULATORY STANDARD	DETECTION LIMIT
<b>MICROBIOLOGY</b>					
COLIFORM BACTERIA <sup>a</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221 B)	>160,000	-	1.8
FACAL COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221 E)	>160,000	-	1.8
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID YELLOW		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO. 27559 AND NO. 12560.

ND : NON-DETECTABLE.

*Benjawan V.*  
(MISS BENJAWAN VIRIYOTHAI)  
LABORATORY SUPERVISOR

NOVEMBER 16, 2022

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2022-U090064

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BY ISI GROUP (THAILAND) CO., LTD.

## ANALYSIS REPORT

**CUSTOMER NAME**

: ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED

**ADDRESS**

: 2034/115 26TH FLOOR TITATHAI TOWER, NEW PETOCHBURI ROAD BANG KAPI HUIAI KIWANG BANGKOK 10310

**CONTACT INFORMATION**

: TEL : 0 2318 6788 e-mail : dusaadee\_jpy@hotmail.com

**SAMPLING SOURCE**

: EFFLUENT

**SAMPLE TYPE**

: PLUAK DAENG

**SAMPLING DATE**

: NOVEMBER 3, 2022

**SAMPLING TIME**

: 11:55 HOUR

**SAMPLING METHOD<sup>a</sup>**

: GRAB, GRAB AND STERILE TECHNIQUE

**SAMPLING BY<sup>a</sup>**

: MR. THANADIT WANANOR

**ANALYZED BY**

: MISS AMONRAT PUTTALEE

**RECEIVED DATE**

: NOVEMBER 3, 2022

**ANALYTICAL DATE**

: NOVEMBER 3-15, 2022

**REPORT NO.**

: 2022-U090065

**WORK NO.**

: 2022-005635

**ANALYSIS NO.**

: T22A943-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			HOLDING POND T22A943-0002			
pH <sup>a</sup>		ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	9.8 (20°C)		5.5-9.0	-
TEMPERATURE <sup>a</sup>	°C	THERMOMETER AT SITE (SM 2550 B)	30		≤ 40	-
FLOW RATE <sup>a</sup>	m <sup>3</sup> /s	CURRENT METER AND CALCULATION	-		-	-
DISSOLVED OXYGEN <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM 4500-O <sub>2</sub> G)	7.7		-	0.5
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	7.5		≤ 20	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	38.6		≤ 120	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	10.8		≤ 50	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	280		≤ 3,000	25
SULPHIDE <sup>a</sup>	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	<0.50		≤ 1	0.50
TOTAL KJELDAHL NITROGEN <sup>a</sup>	mg/L	IN-HOUSE METHOD: UAE/TP-WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	5.7		≤ 100	15
FAT, OIL AND GREASE <sup>a</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND		≤ 5	3
CYANIDE <sup>a</sup>	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500 -CN E)	0.006		≤ 0.2	0.005
FLUORIDE <sup>a</sup>	mg/L F <sup>-</sup>	ION-SELECTIVE ELECTRODE METHOD (SM 4500-F C)	0.95		-	0.04
FORMALDEHYDE <sup>a</sup>	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.09		≤ 1	0.05
PHENOLS <sup>a</sup>	mg/L	DISTILLATION, 4-AMINOANTHRACENE METHOD (SM 5510 B AND 5510 D)	ND		≤ 1	0.1
CHLORIDE AS CHLORINE <sup>a</sup>	mg/L Cl <sup>-</sup>	ARGENTOMETRIC METHOD (SM 4500-Cl <sup>-</sup> B)	30.4		-	20
FREE CHLORINE <sup>a</sup>	mg/L Cl <sub>2</sub>	DPO FERROUS TITRIMETRIC METHOD (SM 4500-Cl <sub>2</sub> F)	ND		≤ 1	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22A943-0002	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDRIE GENERATION AAS METHOD (SM 3114 C)	0.0014	≤ 0.25	0.0003
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM 3112 B)	0.0010	≤ 0.005	0.0005
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM 3600-CF B)	ND	≤ 0.25	0.006
ALUMINUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.077	-	0.010
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.001	≤ 2.0	0.001
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	≤ 0.2	0.002
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.016	≤ 1.0	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	ND	-	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.042	≤ 5.0	0.001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22A943-0002	REGULATORY STANDARD	DETECTION LIMIT
TOTAL IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM 3030 F AND 3120 B)	0.015	-	0.002
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

\* : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

\* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD FOR CONTROL THE EFFLUENT FROM INDUSTRIAL PLANTS, INDUSTRIAL ESTATE AND INDUSTRIAL ZONES, NOTIFICATION OF THE MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

OF INDUSTRY B.E. 2560 (2017).

ND : NON-DETECTABLE.

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*Prasanna V.*

(MISS BEJAWAN VIRIYOTHAI)  
LABORATORY SUPERVISOR

NOVEMBER 16, 2022

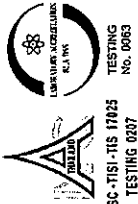
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2022-U090065





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TESTING  
NSC-TIS-115 11/25  
No. 0063  
TESTING 0027

#### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_jay@hotmail.com  
**SAMPLE TYPE** : WASTEWATER  
**SAMPLING SOURCE** : PLUAK DAENG  
**SAMPLING DATE** : DECEMBER 7, 2022  
**SAMPLING TIME** : 14:05 HOUR  
**SAMPLING METHOD** : GRAB, GRAB AND STERILE TECHNIQUE  
**SAMPLING BY** : MR CHAI DUASOD  
**ANALYZED BY** : MISS AMONKAT PUTTALAE

**RECEIVED DATE** : DECEMBER 8, 2022  
**ANALYTICAL DATE** : DECEMBER 8-16, 2022  
**REPORT NO.** : 2022-UI00313  
**WORK NO.** : 2022-005655  
**ANALYSIS NO.** : T22AY502-0001

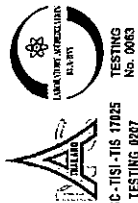
PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AY502-0001	REGULATORY STANDARD	DETECTION LIMIT
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: 4500-H <sup>+</sup> B)	8.1 (30°C)	5.5-9.0	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM: 2550 B)	30	≤ 40	-
COLOR (ORIGINAL pH) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM: 2120 F)	49	≤ 300	10
COLOR (pH 7.0) °	ADMI	ADMI WEIGHTED-ORDINATE SPECTROPHOTOMETRIC METHOD (SM: 2120 F)	44	≤ 300	10
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 5210 B)	11.6	≤ 500	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM: 5220 D)	90.3	≤ 750	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	10.6	≤ 200	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	302	≤ 3,000	25
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: 4500-S <sup>2-</sup> F)	< 0.50	-	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE TP: WAS.001 (KJELDAHL METHOD): SM: 4500-Norg C	22.5	≤ 100	1.5
FAT, OIL AND GREASE °	mg/L	SOLVENT EXTRACTION METHOD (SM: 5520 D)	ND	≤ 10.0	3
CYANIDE °	mg/L CN	DISTILLATION, PYRIDINE-BARBITURIC ACID METHOD (SM: 4500-CN ° C AND 4500 -CN ° E)	0.058	-	0.005
FORMALDEHYDE °	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.37	≤ 1.0	0.05
PHENOLS °	mg/L	DISTILLATION, 4-AMINOANTIPYRINE METHOD (SM: 5530 B AND 5530 D)	ND	≤ 1.0	0.1
NITRATE °	mg/L NO <sub>3</sub>	CADMIUM REDUCTION METHOD (SM: 4500 -NO <sub>3</sub> ° E)	80.6	-	0.09
AMMONIA-NITROGEN °	mg/L NH <sub>4</sub> -N	KJELDAHL METHOD (SM: 4500-NH <sub>4</sub> ° B AND 4500-NH <sub>4</sub> ° C)	19.2	-	1.5
RESIDUAL FREE CHLORINE °	mg/L Cl <sub>2</sub>	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	≤ 1.0	0.1

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TESTING  
NSC-TIS-115 11/25  
No. 0063  
TESTING 0027

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT COLLECTING TANK T22AY502-0001	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: 3114 C)	0.0018	≤ 0.25	0.0003
SELENIUM °	mg/L Se	HYDRIDE GENERATION AAS METHOD (SM: 3114 C)	ND	≤ 0.02	0.0005
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM: 3112 B)	ND	≤ 0.005	0.0005
TRIVALENT CHROMIUM °	mg/L Cr <sup>3+</sup>	NITRIC ACID DIGESTION DIRECT AIR ACETYLENE FLAME COLOURIMETRIC (SM: 3030 E, 3111 B AND 3500-C <sup>3+</sup> B) AND CALCULATION METHOD	ND	≤ 0.75	0.007
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM: 3500-C <sup>6+</sup> B)	ND	≤ 0.25	0.006
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.089	≤ 5.0	0.010
BARIUM °	mg/L Ba	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.085	≤ 1.0	0.005
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.013	≤ 2.0	0.001
IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.524	≤ 10.0	0.002
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.002	≤ 0.2	0.002
MANGANESE °	mg/L Mn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.065	≤ 5.0	0.001
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.053	≤ 1.0	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	ND	≤ 1.0	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.06	≤ 5.0	0.001

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C-TISI-TIS 17025  
TESTING 0207  
TESTING  
No. 0063

**TESTING 0207**

PARAMETER	UNIT	METHOD OF ANALYSIS	REGULATORY STANDARD		DETECTION LIMIT
			RESULT	COLLECTING TANK T22AY502-0001	
MICROBIOLOGY					
COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221B)	>160,000	-	1/8
FAECAL COLIFORM BACTERIA <sup>b</sup>	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221E)	>160,000	-	1/8
SAMPLE CONDITION			YELLOW/TURBID		
WATER'S COLOUR/TURBID			BROWN		
SEDIMENT					

: ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

: VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

**IN-HOUSE** : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.

: STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO. 2/2559 AND NO. 1/2560.

ND : NON-DETECTABLE

DECEMBER 22, 2022

**Benjawan V.**  
(MISS BENJAWAN VIRIYOTHAI)  
LABORATORY SUPERVISOR

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C-TISI-715 17025 TESTING  
TESTING 0207 No. 0053

## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED

ADDRESS : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHWANG BANGKOK 10310

**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : clusadee\_kpy@hotmail.com

**SAMPLING SOURCE** : PLUAK DAENG

: EFFLUENT  
SAMPLE TYPE: DECEMBER 7, 2022  
SAMPLING DATE: 14:30 HOUR  
SAMPLING TIME

**SAMPLING METHOD c :** GRAB, GRAB AND STERILE TECHNIQUE

**SAMPLING BY :** MR CHAI BUASOD

ANALYZED BY : MISS AMONRAT PUTTALÉE

RECEIVED DATE : DECEMBER 8, 2022

ANALYTICAL DATE : DECEMBER 8-19, 2022

**REPORT NO.** : 2022-UI00315

**WORK NO.** : 2022-005655

ANALYSIS NO. : T2AY502-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			TZ2M/592-0002		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	9.8 (31°C)	5.5-9.0	-
TEMPERATURE °	°C	THERMOMETER AT SITE (SM 2500 B)	31	≤ 40	-
FLOW RATE °	m³/s	CURRENT METER AND CALCULATION	-	-	-
DISSOLVED OXYGEN °	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM 4500-O G)	5.7	-	0.5
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 5210 B)	2.0	≤ 20	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	40.6	≤ 120	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	114	≤ 50	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	295	≤ 3,000	25
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM 4500-S <sup>2-</sup> F)	< 0.50	≤ 1	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE TP WAS 001 (KJELDAHL METHOD); SM 4500-Norg C	< 100	≤ 100	15
FAT, OIL AND GREASE °	mg/L	SOX-HLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 5	3
CYANIDE °	mg/L CN <sup>-</sup>	DISTILLATION: PYRIDINE-BARBITURIC ACID METHOD (SM 4500-CN C AND 4500-CN E)	ND	≤ 0.2	0.005
FLUORIDE °	mg/L F <sup>-</sup>	ION-SELECTIVE ELECTRODE METHOD (SM 4500-F C)	106	-	0.04
FORMALDEHYDE °	mg/L	DISTILLATION AND COLOURIMETRIC METHOD	0.12	≤ 1	0.05
PHENOLS °	mg/L	DISTILLATION 4-AMINANTIPYRINE METHOD (SM 5530 B AND 5530 D)	ND	≤ 1	0.1
CHLORIDE AS CHLORINE °	mg/L Cl <sup>-</sup>	ARGENTOMETRIC METHOD (SM 4500-Cl B)	33.3	-	2.0
FREE CHLORINE °	mg/L Cl <sub>2</sub>	DPD FERROUS TITRIMETRIC METHOD (SM 4500-Cl F)	ND	≤ 1	0.1

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AY502-0002	REGULATORY STANDARD	DETECTION LIMIT
<b>METALS</b>					
ARSENIC °	mg/L As	HYDRIDE GENERATION AAS METHOD (SM: 314 C)	0.0017	≤ 0.25	0.0003
MERCURY °	mg/L Hg	COLD VAPOUR AAS METHOD (SM: 312 B)	ND	≤ 0.005	0.0005
HEXAVALENT CHROMIUM °	mg/L Cr <sup>6+</sup>	COLOURIMETRIC METHOD (SM: 3000-Cr B)	ND	≤ 0.25	0.0095
ALUMINIUM °	mg/L Al	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.022	-	0.010
CADMIUM °	mg/L Cd	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	ND	≤ 0.03	0.001
COPPER °	mg/L Cu	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.001	≤ 2.0	0.001
LEAD °	mg/L Pb	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.002	≤ 0.2	0.002
NICKEL °	mg/L Ni	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.025	≤ 1.0	0.001
SILVER °	mg/L Ag	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	ND	-	0.005
ZINC °	mg/L Zn	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.027	≤ 5.0	0.001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT HOLDING POND T22AY502-0002	REGULATORY STANDARD	DETECTION LIMIT
TOTAL IRON °	mg/L Fe	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: 3030 F AND 3120 B)	0.017	-	0.002
<b>SAMPLE CONDITION</b>					
WATERS COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

° : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

° : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

° : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD FOR CONTROL THE EFFLUENT FROM INDUSTRIAL PLANTS, INDUSTRIAL ESTATE AND INDUSTRIAL ZONES, NOTIFICATION OF THE MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT

B.E. 2559 (2016) AND INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2560 (2017).

ND : NON-DETECTABLE

° LOQ : LIMIT OF QUANTIFICATION (TOTAL KJELDAHL NITROGEN ≥ 1% AND < 5.0 mg/L).

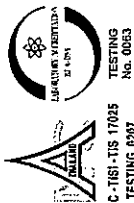
*Benjawan V.*  
 (MISS BENJAWAN VIRIYOTHAI)  
 LABORATORY SUPERVISOR

DECEMBER 22, 2022

# ภาคผนวก ค-03

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คุณภาพน้ำทิ้งจากโรงงานอุตสาหกรรม



**United Analyst and Engineering Consultant Co., Ltd.**  
350 Udomsuk-41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-763 2828 Fax: 02-763 2800 www.ljaeconsultant.com E-mail: ljae@uaeconsultant.com

TESTING  
No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaidee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 10:40 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NARISAT SKRIPIM  
**ANALYZED BY** : MISS PORIPIMOL WAKHONGTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-J051565  
**WORK NO.** : 2022-005263  
**ANALYSIS NO.** : T22AN040-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AN040-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA500-H B)	8.2 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 5210 B)	2.1	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	20.1	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	115	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE/TPWAS/001 (KJELDAHL METHOD): SM 4500-Norg C	8.4	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID YELLOW		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
\* : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
\* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE  
NO22559.

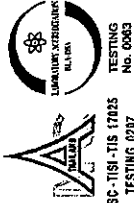
*Piyapol S.*  
(MRS PIYAPAT SUTTANANTWONG)  
LABORATORY SUPERVISOR

JULY 14, 2022

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• REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.



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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaidee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 09:20 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NARISAT SKRIPIM  
**ANALYZED BY** : MISS PORIPIMOL WAKHONGTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-J051566  
**WORK NO.** : 2022-008809  
**ANALYSIS NO.** : T22AN042-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AN042-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA500-H B)	7.4 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 5210 B)	16.6	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	59.2	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	15.6	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	157	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE/TPWAS/001 (KJELDAHL METHOD): SM 4500-Norg C	37.0	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
\* : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
\* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE  
NO22559.

*Piyapol S.*  
(MRS PIYAPAT SUTTANANTWONG)  
LABORATORY SUPERVISOR

JULY 14, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 09:55 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-U054567  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AN042-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AN042-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA4500-H <sup>+</sup> B)	8.0 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5200 B)	310	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	106	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	192	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	202	≤ 3,000	25
TOTAL KjELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE/TP WAS 001 (KJELDAHL METHOD); SM: 4500-Norg C	39.8	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHELET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE.

NO.27559.

*Papap S.*

(MRS PIYAPAT SUTTANANTHONG)  
LABORATORY SUPERVISOR

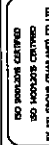
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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 10:20 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-U054568  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AN042-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AN042-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA4500-H <sup>+</sup> B)	8.0 (21°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5200 B)	67.0	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	196	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	39.4	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	280	≤ 3,000	25
TOTAL KjELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE/TP WAS 001 (KJELDAHL METHOD); SM: 4500-Norg C	114	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHELET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE.

NO.27559.

*Papap S.*

(MRS PIYAPAT SUTTANANTHONG)  
LABORATORY SUPERVISOR

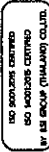
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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusedee\_lpy@hotmail.com  
**SAMPLING SOURCE** : TIANGONG PRECISION TOOLS (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 10:10 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAEINTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-U054569  
**WORK NO.** : 2021-008009  
**ANALYSIS NO.** : T22AN042-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			EFFLUENT	REGULATORY STANDARD	
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.5 (3°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	110	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	360	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	626	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	672	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAE-TP-WASJ001 (KJELDAHL METHOD); SM-4500-Norg C	84.4	≤ 400	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOX-HLET EXTRACTION METHOD (SM-5520 D)	15	≤ 10.0	3
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT					
			GREY/TURBID	GREY	

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.

*Pyapal S.*  
(MRS PIYAPAT SUTAMANTUWONG)  
LABORATORY SUPERVISOR

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusedee\_lpy@hotmail.com  
**SAMPLING SOURCE** : GEELOONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : JULY 1, 2022  
**SAMPLING TIME** : 09:35 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAEINTHONG

**RECEIVED DATE** : JULY 1, 2022  
**ANALYTICAL DATE** : JULY 1-12, 2022  
**REPORT NO.** : 2022-U054570  
**WORK NO.** : 2021-008009  
**ANALYSIS NO.** : T22AN042-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		DETECTION LIMIT
			EFFLUENT	REGULATORY STANDARD	
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	8.5 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	27.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	134	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	16.9	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	255	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAE-TP-WASJ001 (KJELDAHL METHOD); SM-4500-Norg C	20.3	≤ 400	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOX-HLET EXTRACTION METHOD (SM-5520 D)	6	≤ 10.0	3
<b>SAMPLE CONDITION</b>					
WATER'S COLOUR/TURBID SEDIMENT					
			YELLOW/TURBID	BROWN	

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.

*Pyapal S.*  
(MRS PIYAPAT SUTAMANTUWONG)  
LABORATORY SUPERVISOR



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NSC-TISI-TIS 17025

TESTING 0007

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310

**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com

**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)

**SAMPLE TYPE** : EFFLUENT

**SAMPLING DATE** : JULY 1, 2022

**SAMPLING TIME** : 09:45 HOUR

**SAMPLING METHOD** : GRAB

**SAMPLING BY** : MR NARASIT SRIPIM

**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : JULY 1, 2022

**ANALYTICAL DATE** : JULY 1-12, 2022

**REPORT NO.** : 2022-0054571

**WORK NO.** : 2021-008809

**ANALYSIS NO.** : T22AM042-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AM042-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (ISM4500-H <sup>+</sup> B)	7.8 (25°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 520 B)	25.5	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM: 5220 D)	98.4	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM: 2540 D)	16.3	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	346	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAPET-WAS.001 (KJELDAHL METHOD); SM: 4500-NH <sub>3</sub> C	74.3	≤ 800	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM: 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

*Piyapal S.*

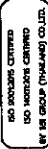
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

JULY 14, 2022

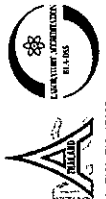
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NSC-TISI-TIS 17025

TESTING 0007

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310

**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com

**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)

**SAMPLE TYPE** : EFFLUENT

**SAMPLING DATE** : JULY 1, 2022

**SAMPLING TIME** : 09:45 HOUR

**SAMPLING METHOD** : GRAB

**SAMPLING BY** : MR NARASIT SRIPIM

**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : JULY 1, 2022

**ANALYTICAL DATE** : JULY 1-12, 2022

**REPORT NO.** : 2022-0054571

**WORK NO.** : 2021-008809

**ANALYSIS NO.** : T22AM042-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AM042-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (ISM4500-H <sup>+</sup> B)	7.8 (25°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 520 B)	25.5	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM: 5220 D)	98.4	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM: 2540 D)	16.3	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	346	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAPET-WAS.001 (KJELDAHL METHOD); SM: 4500-NH <sub>3</sub> C	74.3	≤ 800	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM: 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

*Piyapal S.*

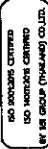
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

JULY 14, 2022

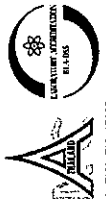
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NSC-TISI-TIS 17025

TESTING 0007

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310

**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com

**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)

**SAMPLE TYPE** : EFFLUENT

**SAMPLING DATE** : JULY 1, 2022

**SAMPLING TIME** : 09:45 HOUR

**SAMPLING METHOD** : GRAB

**SAMPLING BY** : MR NARASIT SRIPIM

**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : JULY 1, 2022

**ANALYTICAL DATE** : JULY 1-12, 2022

**REPORT NO.** : 2022-0054571

**WORK NO.** : 2021-008809

**ANALYSIS NO.** : T22AM042-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AM042-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (ISM4500-H <sup>+</sup> B)	7.8 (25°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 520 B)	25.5	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM: 5220 D)	98.4	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM: 2540 D)	16.3	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	346	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAPET-WAS.001 (KJELDAHL METHOD); SM: 4500-NH <sub>3</sub> C	74.3	≤ 800	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM: 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

*Piyapal S.*

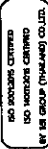
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

JULY 14, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KART HUI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : VEH (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 13:45 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NIPASIT SRIPIM  
**ANALYZED BY** : MISS PORNPIPOL WENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-062570  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.7 (25°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	69.6	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM-5220 D)	188	≤ 1750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	31.1	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	358	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAE-IP-WAS001 (KJELDAHL METHOD); SM-4500-Norg C	93.2	≤ 700	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

ND : NON-DETECTABLE.

NO.27558.

*Papad S.*

(MISS PIPAPAT SUTTHANUNTHONG)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KART HUI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : SAL INDUSTRY (THAILAND) CO., LTD  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 14:20 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NIPASIT SRIPIM  
**ANALYZED BY** : MISS PORNPIPOL WENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-062571  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	8.1 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	55.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM-5220 D)	118	≤ 1750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	318	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	185	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAE-IP-WAS001 (KJELDAHL METHOD); SM-4500-Norg C	52.2	≤ 700	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

ND : NON-DETECTABLE.

NO.27558.

*Papad S.*

(MISS PIPAPAT SUTTHANUNTHONG)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022

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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAT KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 e-mail: dussadee\_jay@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 14:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NARASIT SKRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-0062572  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	8.0 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>b</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	50.2	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	120	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	32.1	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	251	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UATP-WAS 001 (KJELDAHL METHOD); SM 4500-Norg C	68.5	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : 202559.

ND : NON-DETECTABLE.

*Piyapal S.*

(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

AUGUST 16, 2022

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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAT KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 e-mail: dussadee\_jay@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 14:45 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NARASIT SKRIPIM  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-0062573  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0004	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.5 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	ND	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	ND	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	97	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UATP-WAS 001 (KJELDAHL METHOD); SM 4500-Norg C	5.6	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLAR YELLOW		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : 202559.

ND : NON-DETECTABLE.

*Piyapal S.*

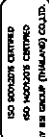
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

AUGUST 16, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/4115 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : uasadee\_ky@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 14:00 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR WAPASIT SRIPIM  
**ANALYZED BY** : MISS PORNPITOL WAENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-062574  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0005	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H-B)	9.2 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O-G AND 5210-B)	58.2	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220-D)	222	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540-D)	30.0	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540-C)	322	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS-001 (KJELDAHL METHOD); SM-4500-Norg-C	217	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHALET EXTRACTION METHOD (SM-5520-D)	ND	≤ 50.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

ND : NON-DETECTABLE.

NO.27559.

*Pongpol S.*  
 (MRS PIRAPAT SUTTANUNUTWONG)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/4115 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : uasadee\_ky@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : AUGUST 2, 2022  
**SAMPLING TIME** : 14:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR WAPASIT SRIPIM  
**ANALYZED BY** : MISS PORNPITOL WAENTHONG

**RECEIVED DATE** : AUGUST 3, 2022  
**ANALYTICAL DATE** : AUGUST 3-11, 2022  
**REPORT NO.** : 2022-062575  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AP151-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AP151-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H-B)	8.1 (29°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O-G AND 5210-B)	36.5	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220-D)	121	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540-D)	15.1	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540-C)	354	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS-001 (KJELDAHL METHOD); SM-4500-Norg-C	128	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHALET EXTRACTION METHOD (SM-5520-D)	12	≤ 50.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

ND : NON-DETECTABLE.

NO.27559.

*Pongpol S.*  
 (MRS PIRAPAT SUTTANUNUTWONG)  
 LABORATORY SUPERVISOR

AUGUST 16, 2022

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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTAI TOWER, NEW PETCIBURI ROAD BANG KAPI HUALI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 11:10 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIJOL WAERTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070871  
**WORK NO.** : 2022-005263  
**ANALYSIS NO.** : T22AR298-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AR298-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	8.8 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	ND	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	16.4	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	68	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAE TP-WAS001) (KJELDAHL METHOD), SM 4500-Norg C	< LOQ	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
 SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
 REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559

ND : NON-DETECTABLE  
 < LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 50 mg/L)

*Piyapat S.*  
 (MRS PIYAPAT SUTTHANUTWONG)  
 LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTAI TOWER, NEW PETCIBURI ROAD BANG KAPI HUALI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee\_koy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:05 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIJOL WAERTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070872  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AR299-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AR299-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.8 (31°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	111	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	198	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	40.5	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	328	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAE TP-WAS001) (KJELDAHL METHOD), SM 4500-Norg C	95.5	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
 SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
 REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559

ND : NON-DETECTABLE

*Piyapat S.*  
 (MRS PIYAPAT SUTTHANUTWONG)  
 LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/41/15 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLE DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:35 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAWASIT SRIPIM  
**ANALYZED BY** : MISS PORNPIROM WAENTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070873  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22A8295-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22A8295-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.9 (34°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	111	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	216	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	519	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	218	≤ 3,000	25
TOTAL KjELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UMETP-WAS.001 (KjELDAHL METHOD); SM 4500-Norg C	57.1	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE.

*Piyapal S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/41/15 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLE DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:45 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAWASIT SRIPIM  
**ANALYZED BY** : MISS PORNPIROM WAENTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070874  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22A8295-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22A8295-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.6 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	73.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	166	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	223	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	324	≤ 3,000	25
TOTAL KjELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UMETP-WAS.001 (KjELDAHL METHOD); SM 4500-Norg C	92.1	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE.

*Piyapal S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

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United Analyst and Engineering Consultant Co., Ltd.  
3 Soi Udomsuk-41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-2763 2828 Fax: 02-2763 2800 www.uaeconsultant.com E-mail: uae@uaeconsultant.com

TESTING  
No. 0083

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee.ky@hotmai.com  
**CONTACTING SOURCE** : TIANGONG PRECISION TOOLS (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:55 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIWOL WAENTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070875  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AR299-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AR299-0004	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA4500-HY B)	7.7 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4600-O G AND 5210 B)	2.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	6.7	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	163	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE TP WAS 001 (KJELDAHL METHOD); SM 4600-NH3 C	5.5	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.

ND : NON-DETECTABLE

*Piyapol S.*  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

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TESTING  
No. 0083

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee.ky@hotmai.com  
**CONTACTING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:15 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAPSIT SRIPIM  
**ANALYZED BY** : MISS PORNPIWOL WAENTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-1070876  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AR299-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AR299-0005	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SMA4500-HY B)	8.9 (32°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4600-O G AND 5210 B)	615	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	271	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	43.8	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	518	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE TP WAS 001 (KJELDAHL METHOD); SM 4600-NH3 C	42.3	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	12	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.

*Piyapol S.*  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

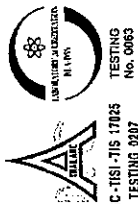
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TESTING 1017  
No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/4115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAJ KHWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : EFFLUENT  
**SAMPLE TYPE** : GEELONG (THAILAND) CO., LTD. (POINT 2)  
**SAMPLING DATE** : SEPTEMBER 2, 2022  
**SAMPLING TIME** : 10:25 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR NAWAPAT SRIPIJIN  
**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : SEPTEMBER 3, 2022  
**ANALYTICAL DATE** : SEPTEMBER 3-9, 2022  
**REPORT NO.** : 2022-070877  
**WORK NO.** : 2021-006809  
**ANALYSIS NO.** : T22A8295-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22A8295-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	8.9 (25°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	44.7	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	202	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	13.4	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	454	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UME-TP-WAS-001 (KJELDAHL METHOD); SM-4500-Nitrg C	46.8	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	10	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

*Piyapal S.*  
(MRS PIYAPAT SUTTANUNUTWONG)  
LABORATORY SUPERVISOR

SEPTEMBER 13, 2022

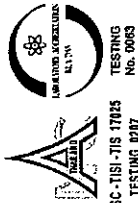
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TESTING 1017  
No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/4115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAJ KHWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : EFFLUENT  
**SAMPLE TYPE** : GULF PD COMPANY LIMITED  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 11:05 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-080831  
**WORK NO.** : 2022-005263  
**ANALYSIS NO.** : T22AT928-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT928-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.8 (31°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	ND	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	12.7	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	136	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UME-TP-WAS-001 (KJELDAHL METHOD); SM-4500-Nitrg C	< LOQ	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.2/2559.

ND : NON-DETECTABLE

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 50 mg/L)

*Piyapal S.*  
(MRS PIYAPAT SUTTANUNUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

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TESTING 8287

## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUIAI KHUANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 10:50 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-U08043  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.5 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 5210 B)	93.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	230	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	44.5	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	347	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS-001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	106	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	3	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559.

*Piyapol S.*

(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

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TESTING 8287

## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUIAI KHUANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 10:15 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-U08044  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.1 (28°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 5210 B)	27.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	99.9	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	34.8	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	152	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS-001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	23.4	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559.

ND : NON-DETECTABLE.

*Piyapol S.*

(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

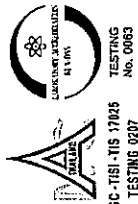
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NSC-TISI-TIS 1705  
TESTING  
No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 E-mail: dussadee\_kjy@hotmail.com  
**SAMPLE SOURCE** : SILKMAX SEALING SOLUTION CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 10:40 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THAMDET WANSANOR  
**ANALYZED BY** : MISS PORNPIJOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-008045  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (ISM 4500-H <sup>+</sup> B)	7.5 (90°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	72.6	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	177	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	413	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	331	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS.001 (KJELDAHL METHOD); SM 4500-Nitrg C	174	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE.

NO.272559.

*Piyapal S.*  
(MISS PIVAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

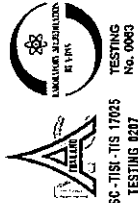
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Tel: 0 2763 2828 Fax: 0 2763 2800 www.laeconsultant.com E-mail: lae@uaeconsultant.com

NSC-TISI-TIS 1705  
TESTING  
No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 E-mail: dussadee\_kjy@hotmail.com  
**SAMPLE SOURCE** : TIANGONG PRECISION TOOLS (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 10:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THAMDET WANSANOR  
**ANALYZED BY** : MISS PORNPIJOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-008046  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0004	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (ISM 4500-H <sup>+</sup> B)	7.1 (94°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	83.1	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	228	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	552	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	406	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS.001 (KJELDAHL METHOD); SM 4500-Nitrg C	48.0	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	15	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.272559.

*Piyapal S.*  
(MISS PIVAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

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## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusedee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 09:48 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIJOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-1008047  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0005	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H B)	7.5 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 5210 B)	19.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	73.0	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	15.6	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	229	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UACITP-WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	28.6	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559.

ND : NON-DETECTABLE.

*Piyapat S.*

(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

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No. 0063

## ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 25TH FLOOR ITALTAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusedee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : OCTOBER 6, 2022  
**SAMPLING TIME** : 10:00 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIJOL WAENTHONG

**RECEIVED DATE** : OCTOBER 6, 2022  
**ANALYTICAL DATE** : OCTOBER 6-12, 2022  
**REPORT NO.** : 2022-1008048  
**WORK NO.** : 2021-00809  
**ANALYSIS NO.** : T22AT925-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AT925-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H B)	7.2 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O G AND 5210 B)	16.7	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	56.2	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	15.2	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	223	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UACITP-WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	47.1	≤ 100	1.5
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559.

ND : NON-DETECTABLE.

*Piyapat S.*

(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

OCTOBER 12, 2022

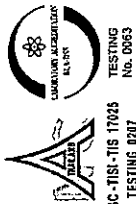
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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 e-mail: dussadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GULF PD COMPANY LIMITED  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 11:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : NOVEMBER 4, 2022  
**ANALYTICAL DATE** : NOVEMBER 4-11, 2022  
**REPORT NO.** : 2022-008640  
**WORK NO.** : 2022-005263  
**ANALYSIS NO.** : T22AV944-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV944-0001	REGULATORY STANDARD	DETECTION LIMIT
pH °	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	8.5 (29°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 5210 B)	ND	≤ 500	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	ND	≤ 200	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	78	≤ 3,000	25
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE-TP-WAS601 (KJELDAHL METHOD); SM 4500-Norg C	8.0	≤ 800	1.5
FAT, OIL AND GREASE °	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
° : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
° : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NO-DETECTABLE  
NO.272559.

NO : NO-DETECTABLE

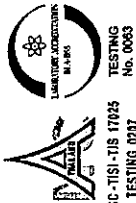
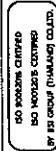
*Piyapal S.*  
(MRS PIYAPAT SUTTANANTUWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL: 0 2318 6788 e-mail: dussadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : VEN (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 11:40 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-008643  
**WORK NO.** : 2021-008609  
**ANALYSIS NO.** : T22AV948-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0001	REGULATORY STANDARD	DETECTION LIMIT
pH °	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.3 (28°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O <sub>2</sub> G AND 5210 B)	6.3	≤ 500	2.0
CHEMICAL OXYGEN DEMAND °	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM 5220 D)	40.8	≤ 750	25.0
TOTAL SUSPENDED SOLIDS °	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	50.4	≤ 200	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	384	≤ 3,000	25
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE-TP-WAS601 (KJELDAHL METHOD); SM 4500-Norg C	40.0	≤ 800	1.5
FAT, OIL AND GREASE °	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
° : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
° : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NO-DETECTABLE  
NO.272559.

NO : NO-DETECTABLE

*Piyapal S.*  
(MRS PIYAPAT SUTTANANTUWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee.kry@hotmail.com  
**SAMPLING SOURCE** : SAIL INDUSTRY (THAILAND) CO., LTD  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 11:05 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WENTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-U089644  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AV948-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.4 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	27.2	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	68.3	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	17.8	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	171	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UANETP-WAS-001 (KJELDAHL METHOD); SM 4600-Norg C	27.7	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

ND : NON-DETECTABLE.  
NO.22559.

*Piyapat S.*  
(MRS PIYAPAT SUTTAMANTWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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No. 0063

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dussadee.kry@hotmail.com  
**SAMPLING SOURCE** : SILMAX SEALING SOLUTION CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 10:45 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WENTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-U089645  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AV948-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.9 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	62.1	≤ 600	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	179	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	28.4	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	347	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UANETP-WAS-001 (KJELDAHL METHOD); SM 4600-Norg C	115	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	4	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.22559.

*Piyapat S.*  
(MRS PIYAPAT SUTTAMANTWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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• REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.



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### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTAH TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_koy@hotmail.com  
**SAMPLING SOURCE** : TIANGONG PRECISION TOOLS (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 10:30 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-0089646  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AV948-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0004	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.5 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	63.4	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	174	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM-2540 D)	17.2	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	1001	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAPETP-WAS001 (KJELDAHL METHOD); SM-4500-Nitro C	44.1	≤ 800	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREY		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
\* : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
\* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED  
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2558.  
NO : NON-DETECTABLE.

*Piyapol S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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NO MODIFICATIONS  
NO MODIFICATIONS  
BY 15 GROUP (THAILAND) CULT.

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTAH TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KWANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_koy@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 09:55 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNPIMOL WAENTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-0089647  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AV948-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0005	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.2 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	215	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX COLOURIMETRIC METHOD (SM-5220 D)	188	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM-2540 D)	59.2	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	305	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAPETP-WAS001 (KJELDAHL METHOD); SM-4500-Nitro C	216	≤ 800	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	12	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

\* : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
\* : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
\* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED  
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2558.

*Piyapol S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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NO MODIFICATIONS  
NO MODIFICATIONS  
BY 15 GROUP (THAILAND) CULT.

# ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GEOLONG (THAILAND) CO., LTD. (POINT 2)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : NOVEMBER 3, 2022  
**SAMPLING TIME** : 10:10 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS PORNIMOL WANGTHONG

**RECEIVED DATE** : NOVEMBER 3, 2022  
**ANALYTICAL DATE** : NOVEMBER 3-11, 2022  
**REPORT NO.** : 2022-U089648  
**WORK NO.** : 2021-008009  
**ANALYSIS NO.** : T22AV948-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV948-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM4500-H <sup>+</sup> B)	7.5 (20°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	41.8	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	47.0	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	8.8	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	224	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAE-TP-WAS-001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	58.0	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED  
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.  
ND : NON-DETECTABLE.

*Piyapol S.*  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

NOVEMBER 15, 2022

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# ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 203/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GULF PD COMPANY LIMITED  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**SAMPLING TIME** : 10:56 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR THANADET WANSANOR  
**ANALYZED BY** : MISS AMONRAT PUTTALEE

**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-U089797  
**WORK NO.** : 2022-005263  
**ANALYSIS NO.** : T22AV952-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AV952-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM4500-H <sup>+</sup> B)	7.7 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	9.4	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	ND	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	ND	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	342	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAE-TP-WAS-001 (KJELDAHL METHOD); SM 4500-NH <sub>3</sub> C	25.7	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED  
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>RD</sup> EDITION, 2017.  
REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.2/2559.  
ND : NON-DETECTABLE.

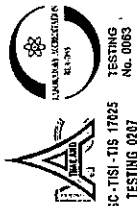
*Piyapol S.*  
(MRS PIYAPAT SUTTAMANUTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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**LJAE** United Analyst and Engineering Consultant Co., Ltd.  
350 Udomsuk 41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-2763 2828 Fax: 02-2763 2800 www.ljaeconsultant.com E-mail: uae@ljaeconsultant.com

TESTING  
NSC-TIS-115 17025  
No. 0083  
TESTING 0207

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR TATTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : VEM (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**SAMPLING TIME** : 10:45 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR. THANADET WANSANOR  
**ANALYZED BY** : MISS ARITYA THARAROM

**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-U098431  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22A951-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22A951-0001	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.0 (29°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	8.7	≤ 500	20
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM-5220 D)	40.6	≤ 750	250
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	107	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	230	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAETP WAS 001 (KJELDAHL METHOD); SM-4600-Norg C	15.5	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO : NON-DETECTABLE.  
NO/22559.

*Piyapol S.*

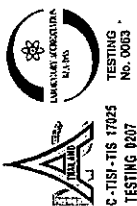
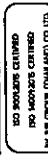
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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**LJAE** United Analyst and Engineering Consultant Co., Ltd.  
350 Udomsuk 41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-2763 2828 Fax: 02-2763 2800 www.ljaeconsultant.com E-mail: uae@ljaeconsultant.com

TESTING  
NSC-TIS-115 17025  
No. 0083  
TESTING 0207

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR TATTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUAI KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : SAIL INDUSTRY (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**SAMPLING TIME** : 10:25 HOUR  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR. THANADET WANSANOR  
**ANALYZED BY** : MISS ARITYA THARAROM

**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-U098432  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22A951-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22A951-0002	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM-4500-H <sup>+</sup> B)	7.2 (31°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM-4500-O <sub>2</sub> G AND 5210 B)	26.5	≤ 500	20
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM-5220 D)	68.6	≤ 750	250
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM-2540 D)	212	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>a</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM-2540 C)	158	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: LAETP WAS 001 (KJELDAHL METHOD); SM-4600-Norg C	21.4	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM-5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

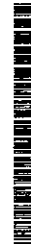
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NO/22559.

*Piyapol S.*

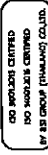
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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• REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.



1/1



# ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 209/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAP HUI KHUANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : SILWAX SEALING SOLUTION CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-U098433  
**WORK NO.** : 2021-008809  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR. THANADET WANSANOR  
**ANALYSIS NO.** : T22AX951-0003  
**ANALYZED BY** : MISS ARITYA THARAROM

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AX951-0003	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM4500-H <sup>+</sup> B)	7.2 (28°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	128	≤ 500	20
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	255	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	33.7	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	404	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	101	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	4	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.272559.

*Piyapol S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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• REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.

# ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 209/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAP HUI KHUANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 0 2318 6788 e-mail : dusaee\_kpy@hotmail.com  
**SAMPLING SOURCE** : TANGONG PRECISION TOOLS (THAILAND) CO., LTD.  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-U098434  
**WORK NO.** : 2021-008809  
**SAMPLING METHOD** : GRAB  
**SAMPLING BY** : MR. THANADET WANSANOR  
**ANALYSIS NO.** : T22AX951-0004  
**ANALYZED BY** : MISS ARITYA THARAROM

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AX951-0004	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>a</sup>	-	ELECTROMETRIC METHOD AT SITE (SM4500-H <sup>+</sup> B)	7.6 (28°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	134	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	263	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	33.8	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	1,112	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD: UAE-TP-WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	398	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	6	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			GREY/TURBID GREY		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

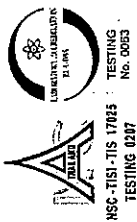
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.  
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)  
NO.272559.

*Piyapol S.*  
(MRS PIYAPAT SUTTANANUTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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**LJAE** United Analyst and Engineering Consultant Co., Ltd.  
33 Soi Udomsuk 41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-2763 2828 Fax: 02-2763 2800 www.ljaeconsultant.com E-mail: use@ljaeconsultant.com

TESTING  
NO. 0053  
TESTING 0287

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 02318 6788 e-mail : dudsadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 1)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**SAMPLING TIME** : DECEMBER 1-8, 2022  
**SAMPLING METHOD** : 2022-0098435  
**SAMPLING BY** : GRAB  
**ANALYSIS NO.** : 2021-008809  
**ANALYZED BY** : MR. THANADET WANANOR  
**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-0098435  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AX951-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AX951-0005	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	9.8 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	453	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	284	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	112	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	691	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAEI2 WAS 001 (KJELDAHL METHOD); SM 4600-Norg C	43.7	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	10	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.272559

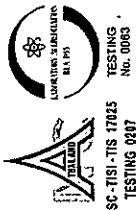
*Piyapol S.*  
(MRS PIYAPAT SUTTAMANTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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**LJAE** United Analyst and Engineering Consultant Co., Ltd.  
33 Soi Udomsuk 41, Sukhumvit Road, Bangkok, Phrakhanong, Bangkok 10260  
Tel: 02-2763 2828 Fax: 02-2763 2800 www.ljaeconsultant.com E-mail: use@ljaeconsultant.com

TESTING  
NO. 0053  
TESTING 0287

### ANALYSIS REPORT

**CUSTOMER NAME** : ROJANA INDUSTRIAL MANAGEMENT COMPANY LIMITED  
**ADDRESS** : 2034/115 26TH FLOOR ITALTHAI TOWER, NEW PETCHBURI ROAD BANG KAPI HUA KHANG BANGKOK 10310  
**CONTACT INFORMATION** : TEL : 02318 6788 e-mail : dudsadee\_kpy@hotmail.com  
**SAMPLING SOURCE** : GEELONG (THAILAND) CO., LTD. (POINT 2)  
**SAMPLE TYPE** : EFFLUENT  
**SAMPLING DATE** : DECEMBER 1, 2022  
**SAMPLING TIME** : DECEMBER 1-8, 2022  
**SAMPLING METHOD** : 2022-0098436  
**SAMPLING BY** : GRAB  
**ANALYSIS NO.** : 2021-008809  
**ANALYZED BY** : MR. THANADET WANANOR  
**RECEIVED DATE** : DECEMBER 1, 2022  
**ANALYTICAL DATE** : DECEMBER 1-8, 2022  
**REPORT NO.** : 2022-0098436  
**WORK NO.** : 2021-008809  
**ANALYSIS NO.** : T22AX951-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT EFFLUENT T22AX951-0006	REGULATORY STANDARD	DETECTION LIMIT
pH <sup>c</sup>	-	ELECTROMETRIC METHOD AT SITE (SM 4500-H <sup>+</sup> B)	7.5 (30°C)	5.5-9.0	-
BIOCHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	MEMBRANE ELECTRODE METHOD (SM 4500-O <sub>2</sub> G AND 5210 B)	17.1	≤ 500	2.0
CHEMICAL OXYGEN DEMAND <sup>a</sup>	mg/L	CLOSED REFLEX, COLOURIMETRIC METHOD (SM 5220 D)	518	≤ 750	25.0
TOTAL SUSPENDED SOLIDS <sup>a</sup>	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103- 105 °C (SM 2540 D)	ND	≤ 200	5.0
TOTAL DISSOLVED SOLIDS <sup>b</sup>	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM 2540 C)	224	≤ 3,000	25
TOTAL KJELDAHL NITROGEN <sup>b</sup>	mg/L	IN-HOUSE METHOD (LAEI2 WAS 001 (KJELDAHL METHOD); SM 4600-Norg C	500	≤ 100	15
FAT, OIL AND GREASE <sup>c</sup>	mg/L	SOXHLET EXTRACTION METHOD (SM 5520 D)	ND	≤ 10.0	3
<b>SAMPLE CONDITION</b> WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

<sup>a</sup> : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)  
<sup>b</sup> : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)  
<sup>c</sup> : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

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SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23<sup>rd</sup> EDITION, 2017.

REGULATORY STANDARD : STANDARD OF DISCHARGED WASTEWATER FROM FACTORY IN ROJANA INDUSTRIAL PARK (RAYONG)

NO.272559

*Piyapol S.*  
(MRS PIYAPAT SUTTAMANTWONG)  
LABORATORY SUPERVISOR

DECEMBER 14, 2022

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# ภาคผนวก ค-04

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คุณภาพน้ำผิวดิน



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355

Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2346408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 8

Sample Number	2274355-1
Sampled Date	Jul 19, 2022 10:10 AM
Sample Description	Surface Water
Location	หมู่ที่ 1 ตำบลนาเกลือ อำเภอสัตหีบ จังหวัดชลบุรี 500 เมตร (SW1)
Date Analysis Commenced	Jul 19, 2022
Condition of Sample	Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.15	No Standard	Based on APHA (2017), 3125	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.0005	0.002	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	0.03	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	79.0	≤4000	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	-	1700.0	No Standard	APHA (2017), 9221 B	Bangkok

Sampled By : Sayan Yattamrungs , Pratin Sriboonmee

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

Approved by

N. Banphit  
Narumon Banchoangkit  
Supervisor

The above results are valid only for the tested/checked sample(s) in accordance with the scope of the accreditation. The results are not valid for any other sample(s) without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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833-621/442

S:\Report\LA\_2024\ (83894)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355

Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2346408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 2 of 8

Sample Number	2274355-1
Sampled Date	Jul 19, 2022 10:10 AM
Sample Description	Surface Water
Location	หมู่ที่ 1 ตำบลนาเกลือ อำเภอสัตหีบ จังหวัดชลบุรี 500 เมตร (SW1)
Date Analysis Commenced	Jul 19, 2022
Condition of Sample	Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.43	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (F)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	4.92	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.5	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	31.6	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline: (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectable  
(c) Change from Natural condition not more than 3 degree C

Sampled By : Sayan Yattamrungs , Pratin Sriboonmee

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

Approved by

N. Banphit  
Narumon Banchoangkit  
Supervisor

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833-621/442

S:\Report\LA\_2024\ (83894)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355  
Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2246408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 3 of 8

Sample Number 2274355-2  
Sampled Date Jul 19, 2022 9:50 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลโพธิ์เสด็จ 1 ตำบลโพธิ์เสด็จ (SW2)  
Date Analysis Commenced Jul 19, 2022  
Condition of Sample Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.25	No Standard	Based on APHA (2017), 3125	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.007	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.0005	0.005	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (6)	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	0.03	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	24000.0	No Standard	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	-	33000.0	No Standard	APHA (2017), 9221 B	Bangkok

The above results are valid only for the analyzed/collected sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) publicly recommends that this report is not reproduced except in full.

Approved by

N. Bangpit

Narumon Banchoangkit  
Supervisor

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83562/0401



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355  
Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2246408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 4 of 8

Sample Number 2274355-2  
Sampled Date Jul 19, 2022 9:50 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลโพธิ์เสด็จ 1 ตำบลโพธิ์เสด็จ (SW2)  
Date Analysis Commenced Jul 19, 2022  
Condition of Sample Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.73	≤0.5	Based on APHA (2017), 4500-NH3 Rayong	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	4	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.4	≥2	Based on APHA (2017), 4500-DO(C) Rayong	Rayong
Flow rate *	m3/s	-	-	0.000	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	3.18	≤5	Based on APHA (2017), 4500-NO3(C)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5510 D	Rayong
Temperature *	Degree C	-	-	29.8	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Change from natural condition  
(4) Not Change from natural condition  
(5) Not Change from natural condition  
(6) Not Change from natural condition  
(7) Change from natural condition not more than 3 degree C

Sampled By : Sayan Yattaburung , Pratin Sriboonmee

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

Approved by

N. Bangpit

Narumon Banchoangkit  
Supervisor

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83562/0401



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355  
Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2316108-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Page 5 of 8

Sample Number	2274355-3
Sampled Date	Jul 19, 2022 9:23 AM
Sample Description	Surface Water
Location	พื้นที่สระน้ำหน้าวัด 2 บางสนวน (SW3)
Date Analysis Commenced	Jul 19, 2022
Condition of Sample	Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(1) Aluminum	mg/L	0.003	0.80	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(1) Arsenic	mg/L	0.0003	0.008	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(1) Cadmium	mg/L	0.0003	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(1) Copper	mg/L	0.0003	0.003	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(1) Hexavalent Chromium	mg/L	0.003	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(1) Lead	mg/L	0.0003	0.003	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(1) Mercury	mg/L	0.0001	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(1) Nickel	mg/L	0.0003	0.009	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(1) Silver	mg/L	0.0003	Not Detected	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(1) Trivalent Chromium *	mg/L	-	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(1) Zinc	mg/L	0.003	0.02	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(1) Fecal Coliform	MPN/100mL	-	3300.0	≤1000	No Standard	APHA (2017), 9221 E	Bangkok
(1) Total Coliform	MPN/100mL	-	13000.0	≤20000	No Standard	APHA (2017), 9221 B	Bangkok

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

Sampled By : Sayan Yattamunee, Pratin Sriboonmee

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)

(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition

(b) Non Objectable

(c) Change from Natural condition not more than 3 degree C

Approved by : N. Banphit

Supervisor : Narumon Banichongkit

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8335-621 (BAK)

S. (Report)\_AL\_20\_04 (1.0.0.0)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355  
Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2316108-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Page 6 of 8

Sample Number	2274355-3
Sampled Date	Jul 19, 2022 9:23 AM
Sample Description	Surface Water
Location	พื้นที่สระน้ำหน้าวัด 2 บางสนวน (SW3)
Date Analysis Commenced	Jul 19, 2022
Condition of Sample	Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.59	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 Rayong F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	4.9	≥4	≥2	Flow meter	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Based on APHA (2017), 4500-NO3(E)	Rayong
Nitrate as N *	mg/L	0.015	3.20	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.4	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	Not Detected	≤0.005	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	31.1	(C)	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)

(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition

(b) Non Objectable

(c) Change from Natural condition not more than 3 degree C

Sampled By : Sayan Yattamunee, Pratin Sriboonmee

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

Approved by : N. Banphit

Supervisor : Narumon Banichongkit

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S. (Report)\_AL\_20\_04 (1.0.0.0)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355

Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2346408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

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Sample Number 2274355-4  
Sampled Date Jul 19, 2022 9:02 AM  
Sample Description Surface Water  
Location หมู่ที่ 2 บางโหนด อ.บ้านค่าย จ.ระยอง 500 uws (SW4)  
Date Analysis Commenced Jul 19, 2022  
Condition of Sample Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOQ)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminum	mg/L	0.003	1.00	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.008	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.003	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.005	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	Not Detected	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Trivalent Chromium *	mg/L	-	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.02	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(M) Fecal Coliform	MPN/100mL	-	4900.0	≤4000	No Standard	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	13000.0	≤20000	No Standard	APHA (2017), 9221 B	Bangkok

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Approved by  
*N. Bangphit*  
Narumon Banchoangkit  
Supervisor

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S:Report\_LA\_201-01 (8.3049)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2274355

Date Received : Jul 19, 2022  
Date Reported : Jul 26, 2022  
Report Number : 2346408-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 8 of 8

Sample Number 2274355-4  
Sampled Date Jul 19, 2022 9:02 AM  
Sample Description Surface Water  
Location หมู่ที่ 2 บางโหนด อ.บ้านค่าย จ.ระยอง 500 uws (SW4)  
Date Analysis Commenced Jul 19, 2022  
Condition of Sample Five plastic bottles, two glass vials, one sterilized plastic bottle and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOQ)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.32	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	3	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	4.8	≥4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.774	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	2.88	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.3	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	Not Detected	≤0.005	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	31.0	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Not change the natural condition  
(4) Not objectionable  
(5) Change from Natural condition, not more than 3 degree C

Sampled By : Sayan Yathammung, Pratin Siboonmee

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

Approved by  
*N. Bangphit*  
Narumon Banchoangkit  
Supervisor

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S:Report\_LA\_201-01 (8.3049)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981

Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 2275718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 8

Sample Number : 2286981-1  
Sampled Date : Aug 17, 2022 9:10 AM  
Sample Description : Surface Water  
Location : หมู่ที่ 5 ตำบลบ้านใหม่ หมู่ที่ 1 ตำบลบ้านใหม่ 500 เมตร (SW1)  
Date Analysis Commenced : Aug 17, 2022  
Condition of Sample : Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.75	No Standard	Based on APHA (2017), 3125	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.007	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.0005	0.005	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (6)	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	<0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	0.03	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	3300.0	≤1000	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	-	7900.0	≤20000	APHA (2017), 9221 B	Bangkok

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

Approved by

N. Banphit  
Narumon Banchoangkit  
Supervisor

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S:\Report\AL\_304.pdf (7/3/2024)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981

Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 2275718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 2 of 8

Sample Number : 2286981-1  
Sampled Date : Aug 17, 2022 9:10 AM  
Sample Description : Surface Water  
Location : หมู่ที่ 5 ตำบลบ้านใหม่ หมู่ที่ 1 ตำบลบ้านใหม่ 500 เมตร (SW1)  
Date Analysis Commenced : Aug 17, 2022  
Condition of Sample : Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.49	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 Rayong F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	6.4	≥4	≥2	Flow meter	Rayong
Flow rate *	m <sup>3</sup> /s	-	0.007	No Standard	No Standard	Based on APHA (2017), 4500-NH3(E)	Rayong
Nitrate as N *	mg/L	0.015	2.03	≤5	≤5	Based on APHA (2017), 4500-H (B)	Rayong
pH at 25 degree C	-	-	7.2	5.0-9.0	5.0-9.0	APHA (2017), 5530 D	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Based on APHA (2017), 2550 B	Rayong
Temperature *	Degree C	-	29.5	(C)	(C)		Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampled By : Tanasit Worngsachal

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

Approved by

N. Banphit  
Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 2375718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 3 of 8

Sample Number : 2286981-2  
Sampled Date : Aug 17, 2022 9:30 AM  
Sample Description : Surface Water  
Location : หมู่ที่ 1 ตำบลบางพลีใหญ่ 1 ตำบลบางพลีใหญ่ (SW2)  
Date Analysis Commenced : Aug 17, 2022  
Condition of Sample : Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Aluminium	mg/L	0.003	0.005	0.90	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.008	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.003	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.009	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	0.0008	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>								
(M) Faecal Coliform	MPN/100mL	-	-	3300.0	≤4000	No Standard	APHA (2017), 9221-E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	7000.0	≤20000	No Standard	APHA (2017), 9221-B	Bangkok

The above results are valid only for the analyzed sample(s) as indicated in the report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) Private Limited Ltd. This report is not responsible except in full.

Approved by  
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Narumon Banchoangkit  
Supervisor

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S. Depant, AL, JO, PH (73344)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 2375718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 4 of 8

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.43	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 Rayong	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤2	≤4	APHA (2017), 5210-B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.3	≥4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.83	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	-	7.2	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	APHA (2017), 5530-D	Rayong
Temperature *	Degree C	-	-	28.9	(C)	(C)	Based on APHA (2017), 2550-B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 5)  
(4) Not Objectionable  
(5) Not Objectionable  
(6) Change from Natural condition not more than 3 degree C

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

Approved by  
N. Banphit  
Narumon Banchoangkit  
Supervisor

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S. Depant, AL, JO, PH (73344)





## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number: 2375718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Sample Number : 2286981-3  
Sample Date : Aug 17, 2022 9:50 AM  
Sample Description : Surface Water  
Location : หมู่ที่ 1 ตำบลบ้านใหม่ 2 นาฬิกาสวน (SW3)  
Date Analysis Commenced : Aug 17, 2022  
Condition of Sample : Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 5 of 8

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Asenic	mg/L	0.0003	0.0005	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.0005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
Lead	mg/L	0.0003	0.0005	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0005	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	7900.0	≤4000	No Standard	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	13000.0	≤20000	No Standard	APHA (2017), 9221 B	Bangkok

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.40	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.9	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.74	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.1	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Based on APHA (2017), 4500-D	Rayong
Temperature *	Degree C	-	28.1	(C)	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Not Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampled By : Tanasit Wongsochai

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

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Approved by

N. Banphit

Nannom Banphongkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number: 2375718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Sample Number : 2286981-3  
Sample Date : Aug 17, 2022 9:50 AM  
Sample Description : Surface Water  
Location : หมู่ที่ 1 ตำบลบ้านใหม่ 2 นาฬิกาสวน (SW3)  
Date Analysis Commenced : Aug 17, 2022  
Condition of Sample : Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 6 of 8

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.40	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.9	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.74	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.1	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Based on APHA (2017), 4500-D	Rayong
Temperature *	Degree C	-	28.1	(C)	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535; published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Not Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampled By : Tanasit Wongsochai

Remark :  
- LOD : Limit of Detection  
- "C" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)  
- Analyte(s) marked \* were not included in scope of Accreditation ISO/IEC 17025.  
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Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 225718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 7 of 8

Sample Number	2286981-4
Sample Date	Aug 17, 2022 10:14 AM
Sample Description	Surface Water
Location	ฟาร์มเลี้ยงกุ้งทะเลบ่อที่ 2 งานโรงงานอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Aug 17, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Aluminum	mg/L	0.003	0.005	1.05	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.008	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.006	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.003	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.03	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>								
(M) Fecal Coliform	MPN/100mL	-	-	4900.0	≤4000	No Standard	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	7500.0	≤20000	No Standard	APHA (2017), 9221 B	Bangkok

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 2286981  
Date Received : Aug 17, 2022  
Date Reported : Aug 25, 2022  
Report Number : 225718-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 8 of 8

Sample Number	2286981-4
Sample Date	Aug 17, 2022 10:14 AM
Sample Description	Surface Water
Location	ฟาร์มเลี้ยงกุ้งทะเลบ่อที่ 2 งานโรงงานอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Aug 17, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.40	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.3	≥4	≥2	Flow meter	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.663	No Standard	No Standard	Based on APHA (2017), 4500-NO3(E)	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.94	≤5	≤5	Based on APHA (2017), 4500-H (B)	Rayong
pH at 25 degree C	-	-	-	7.2	5.0-9.0	5.0-9.0	APHA (2017), 4500-H (B)	Rayong
Petrol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	-	29.2	(C)	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

- (a) Not Change from natural condition
- (b) Non Objectionable
- (c) Change from Natural condition not more than 3 degree C

Sampled By : Tanasit Wongachai

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

Approved by  
*N. Bangpit*  
Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927

Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number: 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O :

Project Name : Pluak Daeng

Project Location :

Page 1 of 6

Sample Number	22101927-1
Sampled Date	Sep 16, 2022 10:16 AM
Sample Description	Surface Water
Location	บริเวณด้านหน้าพื้นที่ก่อสร้าง 1 ของโรงงานอุตสาหกรรม 500 เมตร (SW1)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminum	mg/L	0.003	0.005	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.006	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.003	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.005	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	Not Detected	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	≤1	≤1	Based on APHA (2017), 3125	Bangkok

Microbiological Testing

(M) Fecal Coliform MPN/100mL - 7900.0

(M) Total Coliform MPN/100mL - 33000.0

(M) Total Coliform

(M) Total Coliform

(M) Total Coliform

(M) Total Coliform

(M) Total Coliform

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(M) Total Coliform

(M) Total Coliform

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Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927

Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number: 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O :

Project Name : Pluak Daeng

Project Location :

Page 2 of 6

Sample Number	22101927-1
Sampled Date	Sep 16, 2022 10:16 AM
Sample Description	Surface Water
Location	บริเวณด้านหน้าพื้นที่ก่อสร้าง 1 ของโรงงานอุตสาหกรรม 500 เมตร (SW1)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.24	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 Rayong F	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	6.9	≥4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.607	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.41	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.3	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5310 D	Rayong
Temperature *	Degree C	-	28.5	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Non Change in natural condition  
(c) Not Change in natural condition

Sampled By : Paramet Sattayakun, Thanasoun Namaktrana

Remark :

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

Approved by  
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Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927  
Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number : 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 8

Sample Number 22101927-2  
Sampled Date Sep 16, 2022 10:20 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลหนองน้ำใส อำเภอนางรอง จังหวัดบุรีรัมย์ (SW2)  
Date Analysis Commenced Sep 16, 2022  
Condition of Sample Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminium	mg/L	0.003	0.005	0.28	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.004	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.002	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.006	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	0.03	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(M) Fecal Coliform	MPN/100mL	-	-	4900.0	No Standard	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	33000.0	No Standard	APHA (2017), 9221 B	Bangkok

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927  
Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number : 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O :  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 8

Sample Number 22101927-2  
Sampled Date Sep 16, 2022 10:20 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลหนองน้ำใส อำเภอนางรอง จังหวัดบุรีรัมย์ (SW2)  
Date Analysis Commenced Sep 16, 2022  
Condition of Sample Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.22	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.8	≥4	Based on APHA (2017), 4500-O(C)	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.57	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.3	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5510 D	Rayong
Temperature *	Degree C	-	29.3	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C  
Sampled By : Paramet Sattayakun , Thanassou Namakumia

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

Approved by  
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## Analysis / Test Report

TESTING

No.0042

Lot ID: 22101927

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : 22101927

Date Received : Sep 16, 2022

Date Reported : Sep 24, 2022

Report Number : 2408026-1

Project Name : Pluak Daeng

Project Location :

Page 5 of 8

Sample Number	22101927-3
Sampled Date	Sep 16, 2022 10:45 AM
Sample Description	Surface Water
Location	พื้นที่เก็บน้ำดิบ 2 แหล่งน้ำ (SW3)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Aluminum	mg/L	0.003	0.005	0.30	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Based on APHA (2017), 5900-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Based on US EPA Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.006	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.03	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>								
(M) Fecal Coliform	MPN/100mL	-	-	2400.0	No Standard	≤4000	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	13000.0	No Standard	≤20000	APHA (2017), 9221 B	Bangkok

The above results are valid only for the analyzed samples as indicated in this report. The use of this report for any other purpose without written consent from the Laboratory, ALS Laboratory Group (Thailand) is strictly prohibited. This report is not reproduced except in full.

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## Analysis / Test Report

TESTING

No.0042

Lot ID: 22101927

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : 22101927

Date Received : Sep 16, 2022

Date Reported : Sep 24, 2022

Report Number : 2408026-1

Project Name : Pluak Daeng

Project Location :

Page 6 of 8

Sample Number	22101927-3
Sampled Date	Sep 16, 2022 10:45 AM
Sample Description	Surface Water
Location	พื้นที่เก็บน้ำดิบ 2 แหล่งน้ำ (SW3)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.21	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (F)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.3	≥4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.57	≤5	≤5	Based on APHA (2017), 4500-NO3(F)	Rayong
pH at 25 degree C	-	-	-	7.4	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	APHA (2017), 5550 D	Rayong
Temperature *	Degree C	-	-	29.1	(C)	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Non Change from natural condition  
(4) Non Objectable  
(5) Change from Natural condition not more than 3 degree C

Sampled By : Paramet Sattayakun, Thanasout Namakunin

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

N. Banphit

Approved by

Narumon Banchonglit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927

Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number : 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O :  
Project Name : Pluak Daeng  
Project Location :

Page 7 of 8

Sample Number	22101927-4
Sampled Date	Sep 16, 2022 11:10 AM
Sample Description	Surface Water
Location	พื้นที่ทางทิศตะวันออกฝั่งที่ 2 ของโครงการอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminum	mg/L	0.003	0.005	0.29	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.003	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.002	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.005	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.02	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(M) Fecal Coliform	MPN/100mL	-	-	7900.0	≤4000	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	33000.0	≤20000	APHA (2017), 9221 B	Bangkok

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8235-02 (THAI)

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22101927

Date Received : Sep 16, 2022  
Date Reported : Sep 24, 2022  
Report Number : 2408026-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O :  
Project Name : Pluak Daeng  
Project Location :

Page 8 of 8

Sample Number	22101927-4
Sampled Date	Sep 16, 2022 11:10 AM
Sample Description	Surface Water
Location	พื้นที่ทางทิศตะวันออกฝั่งที่ 2 ของโครงการอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Sep 16, 2022
Condition of Sample	Contained in one BOD bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	<0.05	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2	<2	≤2	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.2	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	-	0.663	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.65	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	-	7.3	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	-	29.4	(C)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Not Change from natural condition  
(C) Change from Natural condition not more than 3 degree C

Sampled By : Paramet Sattayakun , Thanasoun Ramakunna

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

Approved by  
N. Bangphit  
Narumon Banchoangkit  
Supervisor

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8235-02 (THAI)

S:\Report\AL\_2024\01 (10449)



## Analysis / Test Report

TESTING

No.0042  
Lot ID: 22112173

Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 8

Sample Number	22112173-1
Sampled Date	Oct 21, 2022 10:10 AM
Sample Description	Surface Water
Location	วังน้ำจืดสาธารณะในที่ดิน 1 ของโรงงานอุตสาหกรรม 500 ไร่ (SW1)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.42	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Arsenic	mg/L	0.0003	0.005	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.003	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	<0.01	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (b)	Bangkok
Lead	mg/L	0.0003	0.001	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	Not Detected	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.006	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0010	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	<0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.02	≤1	≤1	Based on APHA (2017), 3125	Bangkok

### Microbiological Testing

Fecal Coliform	MPN/100mL	-	13000.0	No Standard	≤4000	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	17000.0	No Standard	≤20000	APHA (2017), 9221 B	Bangkok

The above results are valid only for the purpose stated and are not to be used for any other purpose. The laboratory is not responsible for the results of this report if the sample is not properly preserved or if the sample is not representative of the lot. The laboratory is not responsible for the results of this report if the sample is not properly preserved or if the sample is not representative of the lot.

Approved by

N. Banphit

Narumon Banphongkit  
Supervisor

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033-627-0402

S:\Report\JM\_20-04 (8-1549)



## Analysis / Test Report

TESTING

No.0042  
Lot ID: 22112173

Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 2 of 8

Sample Number	22112173-1
Sampled Date	Oct 21, 2022 10:10 AM
Sample Description	Surface Water
Location	วังน้ำจืดสาธารณะในที่ดิน 1 ของโรงงานอุตสาหกรรม 500 ไร่ (SW1)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.54	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 Rayong F	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	Not Detected	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	7.4	≥4	≥2	Based on APHA (2017), 4500-O(C)	Rayong
Flow rate *	m3/s	-	7.224	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	2.27	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.1	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	Not Detected	≤0.005	≤0.005	APHA (2017), 5510 D	Rayong
Temperature *	Degree C	-	26.7	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(3) Not Change from natural condition  
(4) Non Objectionable  
(5) Change from Natural condition not more than 3 degree C

Sampled By : Chainusorn Lethanbakhunthal

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

Approved by

N. Banphit

Narumon Banphongkit  
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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22112173  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number: 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 3 of 8

Sample Number 22112173-2  
Sample Date Oct 21, 2022 9:55 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลเสม็ด (SW2)  
Date Analysis Commenced Oct 21, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.003	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Arsenic	mg/L	0.0003	0.0005	≤0.01	≤0.01	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	≤0.005	≤0.005	Based on APHA (2017), 3125	Bangkok
Copper	mg/L	0.0003	0.0005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	≤0.05	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
Lead	mg/L	0.0003	0.0005	≤0.05	≤0.05	Based on APHA (2017), 3125	Bangkok
Mercury	mg/L	0.0001	0.0005	≤0.002	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	≤0.10	≤0.10	Based on APHA (2017), 3125	Bangkok
Silver	mg/L	0.0003	0.0005	No Standard	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	No Standard	No Standard	Based on APHA (2017), Calculated	Bangkok
Zinc	mg/L	0.003	0.005	≤1	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	4900.0	≤4000	No Standard	APHA (2017), 9221 E	Bangkok
Total Coliform	MPN/100mL	-	13000.0	≤20000	No Standard	APHA (2017), 9221 B	Bangkok

The above results are valid only for the analyzed/inspected sample(s) as indicated in this report. No part of the report or certificate may be reproduced or any form without written consent from the Laboratory, ALS Laboratory Group (Thailand) Co., Ltd. Any other use of this report is not recommended except in full.

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Supervisor

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8335-027 (THAI)

S. Sornchai, L.A. 2017 (S.13049)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22112173  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number: 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 4 of 8

Sample Number 22112173-2  
Sample Date Oct 21, 2022 9:55 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลเสม็ด (SW2)  
Date Analysis Commenced Oct 21, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	≤0.5	≤0.5	Based on APHA (2017), 4500-NH3 F	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	<2	≤2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	≤0.005	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	≥4	≥2	Based on APHA (2017), 4500-O(C) Rayong	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	≤5	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.2	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	26.6	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, dated February 24, B.E. 2537 (Class 4)  
(B) Not Change from natural condition  
(b) Non Objectable  
(c) Change from Natural condition not more than 3 degree C

Sampled By : Chaitum Lertnaitakulchai  
Remark :  
- LOD : Limit of Detection  
- LOQ : Lower Limit of Quantitation (LOQ) (Limit of Reporting)  
- Analyte(s) marked \* are not included in scope of Accreditation ISO/IEC 17025.  
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Approved by  
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NIGHT SOLUTIONS RICHIT PATTANIT

8335-027 (THAI)

S. Sornchai, L.A. 2017 (S.13049)



## Analysis / Test Report

TESTING

No.0042

Lot ID: 22112173

Date Received : Oct 21, 2022

Date Reported : Oct 29, 2022

Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65

Project Name : Pluak Daeng

Project Location :

Page 5 of 8

Sample Number	22112173-3
Sample Date	Oct 21, 2022 9:33 AM
Sample Description	Surface Water
Location	พื้นที่ตรวจสอบน้ำผิวดิน 2 แหล่งน้ำ (SW3)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminium	mg/L	0.003	0.005	0.40	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.005	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.003	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr (B)	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.001	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.006	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	0.0006	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.02	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(M) Fecal Coliform	MPN/100mL	-	-	7900.0	≤4000	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	79000.0	≤20000	APHA (2017), 9221 B	Bangkok

Sampled By : Chaiyusorn Lertthabakunthal

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

The above results are valid only for the analyzed sample(s) as indicated in the report. The results are not valid for other samples or for other parameters without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that the report is not reproduced except in full.

N. Banphit

Approved by

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8374-62 (THAI)

S:\Report\UN\_20-04 (81549)



## Analysis / Test Report

TESTING

No.0042

Lot ID: 22112173

Date Received : Oct 21, 2022

Date Reported : Oct 29, 2022

Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65

Project Name : Pluak Daeng

Project Location :

Page 6 of 8

Sample Number	22112173-3
Sample Date	Oct 21, 2022 9:33 AM
Sample Description	Surface Water
Location	พื้นที่ตรวจสอบน้ำผิวดิน 2 แหล่งน้ำ (SW3)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.55	≤0.5	Based on APHA (2017), 4500-NH3 Rayong F	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	<2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (C)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	8.0	≥4	Flow meter	Rayong
Flow rate *	m3/s	-	0.000	1.80	≤5	Based on APHA (2017), 4500-HO3(E)	Rayong
Nitrate as N *	mg/L	0.015	0.05	7.2	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
pH at 25 degree C	-	-	-	Not Detected	≤0.005	APHA (2017), 5530 D	Rayong
Phenol *	mg/L	0.0005	0.001	26.7	(C)	Based on APHA (2017), 2550 B	Rayong
Temperature *	Degree C	-	-	(C)	(C)		Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Not Objectionable  
(c) Change from natural condition not more than 3 degree C

Sampled By : Chaiyusorn Lertthabakunthal

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

The above results are valid only for the analyzed sample(s) as indicated in the report. The results are not valid for other samples or for other parameters without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that the report is not reproduced except in full.

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Approved by

Nannorn Banchoangkit  
Supervisor

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8374-62 (THAI)

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22112173  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 7 of 8

Sample Number	22112173-4
Sample Date	Oct 21, 2022 9:15 AM
Sample Description	Surface Water
Location	พื้นที่โรงงานอุตสาหกรรม 2 ของโรงงานอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Aluminium	mg/L	0.003	0.005	0.42	No Standard	Based on APHA (2017), 3125	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.005	≤0.01	Based on APHA (2017), 3125	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3125	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.003	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Based on APHA (2017), 3500-Cr	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.001	≤0.05	Based on APHA (2017), 3125	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	Based on US EPA, Method 1631 Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.006	≤0.10	Based on APHA (2017), 3125	Bangkok
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Based on APHA (2017), 3125	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Based on APHA (2017), Calculated	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.02	≤1	Based on APHA (2017), 3125	Bangkok
<b>Microbiological Testing</b>							
(M) Fecal Coliform	MPN/100mL	-	-	2200.0	No Standard	APHA (2017), 9221 E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	24000.0	No Standard	APHA (2017), 9221 B	Bangkok

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Supervisor

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835-627/2943

53/Repsan\_M\_202.jpg (1:1504)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22112173  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2429915-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 8 of 8

Sample Number	22112173-4
Sample Date	Oct 21, 2022 9:15 AM
Sample Description	Surface Water
Location	พื้นที่โรงงานอุตสาหกรรม 2 ของโรงงานอุตสาหกรรม 500 ไร่ (SW4)
Date Analysis Commenced	Oct 21, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.40	≤0.5	Based on APHA (2017), 4500-NH3	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	<2	<2	≤4	APHA (2017), 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	Based on APHA (2017), 4500-CN(C), (E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	8.3	≥4	Based on APHA (2017), 4500-DO(C)	Rayong
Flow rate *	m3/s	-	1.776	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.75	≤5	Based on APHA (2017), 4500-NO3(E)	Rayong
pH at 25 degree C	-	-	7.2	5.0-9.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	APHA (2017), 5530 D	Rayong
Temperature *	Degree C	-	26.1	(c)	(c)	Based on APHA (2017), 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3).  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4).  
(B) Not Change from natural condition  
(C) Not Collectable  
(C) Change from Natural condition not more than 3 degree C

Sampled By : Chairusorn Lertnaitrakulchai

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

Approved by

N. Banphit

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835-627/2943

53/Repsan\_M\_202.jpg (1:1504)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
59/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 12

Page 1 of 12

Sample Number 22135928-1  
Sample Date Dec 12, 2022 11:20 AM  
Sample Description Surface Water  
Location หมู่ที่ 5 บ้านนาเกลือ ตำบลนาเกลือ อำเภอสหัสขันธ์ จังหวัดกาฬสินธุ์ 500 uae (SW1)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Aluminium	mg/L	0.003	0.005	1.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.007	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr-B	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.005	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

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*N. Banphit*  
Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
59/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 2 of 12

Page 2 of 12

Sample Number 22135928-1  
Sample Date Dec 12, 2022 11:20 AM  
Sample Description Surface Water  
Location หมู่ที่ 5 บ้านนาเกลือ ตำบลนาเกลือ อำเภอสหัสขันธ์ จังหวัดกาฬสินธุ์ 500 uae (SW1)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.02	≤1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
(M) Fecal Coliform	MPN/100mL	-	-	1300.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	7900.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.38	≤0.5	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	In-house method : STM 02-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number: 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 3 of 12

Sample Number 22135928-1  
Sampled Date Dec 12, 2022 11:20 AM  
Sample Description Surface Water  
Location ไร่จันทน์อุตสาหกรรมพื้นที่ 1 ทางหลวงสาย 500 ทาง (SW1)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing							
Dissolved Oxygen *	mg/L	-	0.1	7.5	≥4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	0.000	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.62	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C		-	-	7.4	5.0-9.0	In-house method: STM 02-005 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 C	Rayong
Temperature *	Degree C	-	-	26.5	(c)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, dated February 24, B.E. 2537 (Class 4)  
(3) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampling By : Paramet Sattayakun รหัสประจำตัว 3-323-9-9476

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

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8375-52 (THAI)

S. Jirapong, AL 26-04 (73149)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number: 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 4 of 12

Sample Number 22135928-2  
Sampled Date Dec 12, 2022 9:36 AM  
Sample Description Surface Water  
Location ไร่จันทน์อุตสาหกรรมพื้นที่ 1 ทางหลวงสาย (SW2)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing							
(A) Aluminium	mg/L	0.003	0.005	0.99	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Copper	mg/L	0.0003	0.0005	0.007	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Lead	mg/L	0.0003	0.0005	0.005	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(A) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
(A) Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

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8375-52 (THAI)

S. Jirapong, AL 26-04 (73149)



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 5 of 12

Page 5 of 12

Sample Number 22135928-2  
Sampled Date Dec 12, 2022 9:36 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลบ้านใหม่ (SW2)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.03	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	790.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
(M) Total Coliform	MPN/100mL	-	13000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.45	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	In - house method : STM 02-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 1500 - CN (C, E)	Rayong

N. Banphit

Approved by

Narumon Banchoangkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 6 of 12

Page 6 of 12

Sample Number 22135928-2  
Sampled Date Dec 12, 2022 9:36 AM  
Sample Description Surface Water  
Location หมู่ 1 ตำบลบ้านใหม่ (SW2)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Dissolved Oxygen *	mg/L	-	0.1	7.5	≥4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.56	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C	-	-	7.4	5.0-9.0	5.0-9.0	In - house method : STM 02-005 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 C	Rayong
Temperature *	Degree C	-	26.1	(c)	(c)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act. B.E.2537, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act. B.E.2537, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

Sampling By : Paramet Sattayakun 'Institutional' 7-23-3-9476  
Remark :  
- LOD : Limit of Detection  
- "c" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)  
- Analyte(s) marked \* before not included in scope of Accreditation ISO/IEC 17025.

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

N. Banphit

Approved by

Narumon Banchoangkit  
Supervisor

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S:\Report\_M\_2024\21140\4



## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJK(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 7 of 12

Sample Number 22135928-3  
Sample Date Dec 12, 2022 10:19 AM  
Sample Description Surface Water  
Location หมู่ 1 บ้านหนองน้ำจืด 2 ตำบลเสม็ด (SW3)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Aluminum	mg/L	0.003	0.005	1.24	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Copper	mg/L	0.0003	0.0005	0.008	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500 Cr B	Bangkok
(M) Lead	mg/L	0.0003	0.0005	0.006	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
(M) Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Approved by

N. Bangpit

Narumon Banchojkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJK(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 8 of 12

Sample Number 22135928-3  
Sample Date Dec 12, 2022 10:19 AM  
Sample Description Surface Water  
Location หมู่ 1 บ้านหนองน้ำจืด 2 ตำบลเสม็ด (SW3)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
(M) Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
(M) Zinc	mg/L	0.003	0.005	0.03	≤1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	2400.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
(M) Total Coliform	MPN/100mL	-	-	13000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.60	≤0.5	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 NH3 (F)	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	In-house method : STM 02-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 CN (C, E)	Rayong

Approved by

N. Bangpit

Narumon Banchojkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 5 of 12

Sample Number 22135928-3  
Sampled Date Dec 12, 2022 10:19 AM  
Sample Description Surface Water  
Location หนองน้ำสาธารณะใกล้ 2 โรงโม่หิน (SW3)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>							
Dissolved Oxygen *	mg/L	-	0.1	7.5	≥4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.000	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.61	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	7.4	5.0-9.0	5.0-9.0	In-house method : STM 02-005 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 C	Rayong
Temperature *	Degree C	-	27.5	(c)	(c)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C  
Sampling By : Paramet Sattayakun รหัสประจำตัว 1-323-9-9176

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

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N. Bangpit

Approved by

Natnum Banchongkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 10 of 12

Sample Number 22135928-4  
Sampled Date Dec 12, 2022 11:00 AM  
Sample Description Surface Water  
Location หนองน้ำสาธารณะใกล้ 2 โรงโม่หิน (SW4)  
Date Analysis Commenced Dec 12, 2022  
Condition of Sample Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/L	0.003	0.005	1.15	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.008	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.006	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	≤0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3100 F	Bangkok

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N. Bangpit

Approved by

Natnum Banchongkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 11 of 12

Sample Number	22135928-4
Sample Date	Dec 12, 2022 11:00 AM
Sample Description	Surface Water
Location	พื้นที่ขุดเจาะน้ำดิบ 2 ของโรงงานอุตสาหกรรม 500 มวท (SW4)
Date Analysis Commenced	Dec 12, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>101</sup> Silver	mg/L	0.0003	0.0005	0.002	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>101</sup> Zinc	mg/L	0.003	0.005	0.03	≤1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	2400.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>101</sup> Total Coliform	MPN/100mL	-	-	13000.0	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.60	≤0.5	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
BOD (5 days at 20 Degree C) *	mg/L	-	2	<2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Rayong
Cyanide as CN	mg/L	0.001	0.005	Not Detected	≤0.005	≤0.005	In-house method : STM 02-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong

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Approved by  
*N. Bangpit*  
Narumon Banchongkit  
Supervisor

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## Analysis / Test Report

TESTING  
No.0042  
Lot ID: 22135928  
Date Received : Dec 12, 2022  
Date Reported : Dec 20, 2022  
Report Number : 2487377-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 12 of 12

Sample Number	22135928-4
Sample Date	Dec 12, 2022 11:00 AM
Sample Description	Surface Water
Location	พื้นที่ขุดเจาะน้ำดิบ 2 ของโรงงานอุตสาหกรรม 500 มวท (SW4)
Date Analysis Commenced	Dec 12, 2022
Condition of Sample	Contained in two glass vials, one BOD bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Dissolved Oxygen *	mg/L	-	0.1	7.7	≥4	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	0.000	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.72	≤5	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C		-	-	7.5	5.0-9.0	5.0-9.0	In-house method : STM 02-005 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 C	Rayong
Temperature *	Degree C	-	-	28.9	(C)	(C)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampling By : Paramet Sattayakul วตินูณานนท์ 7-323-9476

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

Approved by  
*N. Bangpit*  
Narumon Banchongkit  
Supervisor

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# ภาคผนวก ค-05

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คุณภาพน้ำใต้ดิน



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
59/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-1

Page 1 of 1

Sample Number	2245518-1
Sample Date	Dec 22, 2022 11:20 AM
Sample Description	Underground Water
Location	พื้นที่ดินชุมชน (GW1)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing						
pH at 25 degree C		-	6.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (9)	Rayong

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasak Wongsechai วังวงศ์ชัย 3-323-9-9460

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

Technical Management  
N. Banchongkiet  
Supervisor  
วณิชญ์ 3-323-9-9455

Approved by  
D. Chongchon  
Senior Manager  
วณิชญ์ 3-323-9-9442

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835-02/ENL

S/Report, JM, Client (1.3279)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
59/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-2

Page 1 of 2

Sample Number	2245518-1
Sample Date	Dec 22, 2022 11:20 AM
Sample Description	Underground Water
Location	พื้นที่ดินชุมชน (GW1)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.0009	≤0.01 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.12	No Standard Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.003 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr 6	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.01 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.05	≤0.5 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.001 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.004	≤0.02 Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management  
Savitree N.  
Manager  
วณิชญ์ 3-204-3-1709

Approved by  
Kanokorn Anek  
Senior Manager  
วณิชญ์ 3-204-3-6111

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NIGHT SOLUTIONS HIGH-Tech

835-02/ENL

S/Report, JM, Client (1.3279)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Date Analysis Commenced : Dec 23, 2022  
Condition of Sample : Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

TESTING  
No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-2

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Selenium	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	Not Detected	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasit Wongsachai รหัสผู้เก็บตัวอย่าง : 323-9-9460

- Remark :
- LOD : Limit of Detection
  - LOQ : Lower Limit of Quantitation (LOQ) (Unit of Reporting)
  - Analysis(es) included : \*Selenium is included in scope of Accreditation ISO/IEC 17025.
  - The Laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Savitree N.  
Savitree Nisangiam  
Manager  
รหัสผู้เก็บตัวอย่าง : 204-9-4709

Approved by

Kanokkom Anek  
Kanokkom Anek  
Senior Manager  
รหัสผู้เก็บตัวอย่าง : 204-9-6111

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8335-637 EMAIL

RIGHT SOLUTIONS RIGHT PARTNER

S:Report\_ML\_GLPK (1.12PM)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Date Analysis Commenced : Dec 23, 2022  
Condition of Sample : Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

TESTING  
No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-3

Page 1 of 3

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.87	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.0006	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.85	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Microbiological Testing							
Staphylococcus coli	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, F	Bangkok
Standard Plate Count	CFU/mL	-	-	33	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9215 B	Bangkok
Total Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing Chloride as Cl *	mg/L	0.5	1	9	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B)	Rayong

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Approved by

Sithichok T.  
Sithichok Thongtonguen  
Scientist (S)

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8335-637 EMAIL

S:Report\_ML\_GLPK (1.12PM)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518-1  
TESTING No.0009  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-3

Page 2 of 3

Sample Number	2245518-1						
Sampled Date	Dec 22, 2022 11:20 AM						
Sample Description	Underground Water						
Location	พื้นที่ด้านหน้าโรงงาน (GW1)						
Date Analysis Commenced	Dec 23, 2022						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Color *	Color unit	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	0.2	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.41	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO3 *	mg/L	-	1	20	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	10.3	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO3 *	mg/L	-	1	20	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	-	5	137	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Hardness as CaCO3 *	mg/L	-	1	40	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok
Turbidity *	NTU	-	0.1	33.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2130 B	Rayong

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

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Approved by  
**Sithichok T.**  
Sithichok Thongtuen  
Scientist (3)

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## Analysis / Test Report

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54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
TESTING No.0009  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532844-3

Page 2 of 3

Sampling By : Tanasit Wongasachai รหัสประจำตัว 7-323-9-9460  
Remarks :  
- LOD : Limit of Detection  
- LOQ : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)  
- Analyzed marked : figure not included in scope of accreditation ISO/IEC 17025.  
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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Approved by  
**Sithichok T.**  
Sithichok Thongtuen  
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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532845-1

Page 1 of 1

Sample Number	2245518-2
Sampled Date	Dec 22, 2022 9:50 AM
Sample Description	Underground Water
Location	พื้นที่ดินน้ำบาดาล (GW2)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing pH at 25 degree C		-	5.6	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (D)	Rayong

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasit Worngsachai รหัสประจำตัว 3-323-9-9460

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

Technical Management

N. Bangphit  
Narumon Banchongkit  
Supervisor  
รหัสประจำตัว 3-323-9-9445

Approved by

D. Chanchon  
Dej Chanchon  
Senior Manager  
รหัสประจำตัว 3-323-9-9442

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833-632 P/AL

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S:Report, AL, Q:net ( 4.23PM)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532845-2

Page 1 of 2

Sample Number	2245518-2
Sampled Date	Dec 22, 2022 9:50 AM
Sample Description	Underground Water
Location	พื้นที่ดินน้ำบาดาล (GW2)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing Arsenic	mg/L	0.0003	0.0005	0.0008	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok
Barium	mg/L	0.0003	0.0005	0.36	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.003	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok
Manganese	mg/L	0.0003	0.0005	0.99	≤0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112 Bangkok
Nickel	mg/L	0.0003	0.0005	0.002	≤0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F Bangkok

Technical Management

Savitree N.  
Savitree Nolsangiam  
Manager  
รหัสประจำตัว 3-204-9-4709

Approved by

K. Anok  
Kanokorn Anok  
Senior Manager  
รหัสประจำตัว 3-204-9-6111

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833-632 P/AL

RIGHT SOLUTIONS HIGHLY PRACTICAL

S:Report, AL, Q:net ( 4.23PM)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : RUN(2)-019/64

Project Name : Pluak Daeng

Project Location :

TESTING  
No.0009  
Lot ID: 2245518

Date Received : Dec 22, 2022

Date Reported : Jan 03, 2023

Report Number : 252845-2

Page 2 of 2

Sample Number	2245518-2
Sample Date	Dec 22, 2022 9:50 AM
Sample Description	Underground Water
Location	พื้นที่ดินร่วนซุย (GW2)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Selenium	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	Not Detected	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasit Wongasachai รหัสประจำตัว 3-323-3-9460

Remark :

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

Technical Management

Savitree N.

Manager

รหัสประจำตัว 3-204-3-4709

Approved by

Kanokorn Anek

Senior Manager

รหัสประจำตัว 3-204-3-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : RUN(2)-019/64

Project Name : Pluak Daeng

Project Location :

TESTING  
No.0009  
Lot ID: 2245518

Date Received : Dec 22, 2022

Date Reported : Jan 04, 2023

Report Number : 252845-3

Page 1 of 3

Sample Number	2245518-2
Sample Date	Dec 22, 2022 9:50 AM
Sample Description	Underground Water
Location	พื้นที่ดินร่วนซุย (GW2)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.06	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.80	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Microbiological Testing							
Escherichia coli	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9211 B, F	Bangkok
Standard Plate Count	CFU/mL	-	-	73	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9215 B	Bangkok
Total Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Chloride as Cl *	mg/L	0.5	1	66	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-C (B)	Rayong

Approved by

Siriluk P.

Supervisor

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
TESTING  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532845-3

Page 2 of 2

Analyte	Unit	LOQ	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>						
Color *	Color unit	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 B	Rayong
Fluoride *	mg/L	0.2	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.82	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
Permanent Hardness as CaCO <sub>3</sub> *	mg/L	1	65	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Sulfate *	mg/L	0.5	90.7	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO <sub>4</sub> (E)	Rayong
Total Alkalinity as CaCO <sub>3</sub> *	mg/L	1	8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	5	240	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Hardness as CaCO <sub>3</sub> *	mg/L	1	73	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok
Turbidity *	NTU	0.1	2.3	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2130 B	Rayong

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

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Sriuluk P.  
Sriuluk Puengpang  
Supervisor

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
TESTING  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532845-3

Page 3 of 3

Sampling By : Tanasit Wongsochai รหัสงาน 7-323-9460  
Remark :  
- LOD : Limit of Detection  
- \* : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)  
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.  
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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Sriuluk Puengpang  
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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJC(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532847-1

Page 1 of 1

Sample Number	2245518-4
Sample Date	Dec 22, 2022 10:40 AM
Sample Description	Underground Water
Location	พื้นที่ด้านหน้า/หลังบ้าน (GW4)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing						Rayong
pH at 25 degree C		-	6.4	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (6)	

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasit Wongachal วัฒโนธราช 7-323-9-9460

Remark :  
• LOD : Limit of Detection  
• "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Technical Management

N. Banphit

Narumon Banichongkit  
Supervisor  
โทร: 09-09445

Approved by

D. Jansu

Dej Changchon  
Senior Manager  
โทร: 09-09442

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJC(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532847-2

Page 1 of 2

Sample Number	2245518-4
Sample Date	Dec 22, 2022 10:40 AM
Sample Description	Underground Water
Location	พื้นที่ด้านหน้า/หลังบ้าน (GW4)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing						Bangkok
Arsenic	mg/L	0.0003	0.0005	0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	
Barium	mg/L	0.0003	0.0005	0.20	No Standard	
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	
Lead	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	
Manganese	mg/L	0.0003	0.0005	2.51	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	
Mercury *	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	
Nickel	mg/L	0.0003	0.0005	0.003	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	

Technical Management

Savitree N.

Savitree Nongsiam  
Manager  
โทร: 09-09445-7709

Approved by

K. Anuk

Kanokkom Anuk  
Senior Manager  
โทร: 09-09445-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
TESTING No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532847-2

Page 2 of 2

Sample Number	2245518-4
Sampled Date	Dec 22, 2022 10:40 AM
Sample Description	Underground Water
Location	พื้นที่ด้านหน้าอาคาร (GW4)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Selenium	mg/L	0.0003	0.0005	<0.0005	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	<0.005	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

Sampling By : Tanasit Wongsochat รหัสประจำตัว 323-9-9460

Remark :

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

Technical Management

Savitree N.  
Savitree Nolsinglam  
Manager

Approved by

Kanokorn Anek  
Kanokorn Anek  
Senior Manager  
รหัสประจำตัว 3204-9-6111

รหัสประจำตัว 3204-9-4709

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RTS-02/ENGL

Silulak P. (SOPH)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
TESTING No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532847-3

Page 1 of 3

Sample Number	2245518-4
Sampled Date	Dec 22, 2022 10:40 AM
Sample Description	Underground Water
Location	พื้นที่ด้านหน้าอาคาร (GW4)
Date Analysis Commenced	Dec 23, 2022
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/L	0.003	0.005	2.79	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	32.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>							
Escherichia coli	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, F	Bangkok
Standard Plate Count	CFU/mL	-	-	69	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9215 B	Bangkok
Total Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Chloride as Cl *	mg/L	0.5	1	9	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B)	Rayong

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Approved by

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Silulak P. (SOPH)



## Analysis / Test Report

TESTING  
No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532847-3

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Sample Number : 2245518-4  
Sample Date : Dec 22, 2022 10:40 AM  
Sample Description : Underground Water  
Location : หมู่บ้านจันทน์ (GW4)  
Date Analysis Commenced : Dec 23, 2022  
Condition of Sample : Contained in two glass bottles, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 2 of 3

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Color *	Color unit	-	5	200	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	0.3	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	<0.05	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
Permanent Hardness as CaCO <sub>3</sub> *	mg/L	-	1	<1	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	8.3	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO <sub>4</sub> (E)	Rayong
Total Alkalinity as CaCO <sub>3</sub> *	mg/L	-	1	60	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degrees C *	mg/L	-	5	176	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Hardness as CaCO <sub>3</sub> *	mg/L	-	1	48	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok
Turbidity *	NTU	-	0.1	190	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2130 B	Rayong

Guideline : Notification of the National Environmental Board, No. 20, B.E.2543

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Sriuk Puanggang  
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## Analysis / Test Report

TESTING  
No.0009  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532847-3

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :

Sampling By : Tanasit Wongsachai naduannak +323-a-9460

Page 3 of 3

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

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Sriuk Puanggang  
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## Analysis / Test Report

TESTING  
No.0009  
**Lot ID: 2245518**  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532848-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 4

Sample Number 2245518-5  
Sample Date Dec 22, 2022 2:00 PM  
Sample Description Underground Water  
Location u.5 thra-sa-wai-ai  
Date Analysis Commenced Dec 23, 2022  
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.03	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.0008	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.22	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	0.04	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.08	≤0.50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

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Siriluk Puengpiang  
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Silcock ML Group (U.S.A.)



## Analysis / Test Report

TESTING  
No.0009  
**Lot ID: 2245518**  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532848-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Page 2 of 4

Sample Number 2245518-5  
Sample Date Dec 22, 2022 2:00 PM  
Sample Description Underground Water  
Location u.5 thra-sa-wai-ai  
Date Analysis Commenced Dec 23, 2022  
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112 F	Bangkok
Nickel	mg/L	0.0003	0.0005	0.001	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.02	≤15	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>							
<i>Escherichia coli</i>	MPN/100mL	-	-	17.0	Not Detected (1)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, F	Bangkok
Standard Plate Count	CFU/mL	-	-	82	≤500 (1)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9215 B	Bangkok

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Approved by

Siriluk P.  
Siriluk Puengpiang  
Supervisor

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Silcock ML Group (U.S.A.)



## Analysis / Test Report

TESTING  
No.0009

Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532849-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN23-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 3 of 4

Sample Number 2245518-5  
Sample Date Dec 22, 2022 2:00 PM  
Sample Description Underground Water  
Location 4.5 km from Phatthana  
Date Analysis Commenced Dec 23, 2022  
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	Result	Guideline / Specification	Method	Testing Location
<b>Microbiological Testing</b>						
Total Coliform	MPN/100mL	-	49.0	<2.2 (1)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing Chloride as Cl *	mg/L	0.5	14	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B)	Rayong
Color *	Color unit	-	<5	≤15	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 B	Rayong
Fluoride *	mg/L	-	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO3 *	mg/L	-	29	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok
pH at 25 degree C *	-	-	6.4	6.5-9.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Sulfate *	mg/L	0.6	11.4	≤250	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO3 *	mg/L	-	23	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Bangkok

The above results are valid only for the analyzed (tested) samples as indicated in this report. The part of the report or conditions that are not reported is any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by  
Siriuk P.  
Siriuk Puengpang  
Supervisor

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8335-67 ENAL

Siraporn UM-CL-INT (83340)



## Analysis / Test Report

TESTING  
No.0009

Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2532849-1

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN23-019/64  
Project Name : Pluak Daeng  
Project Location :

Page 4 of 4

Sample Number 2245518-5  
Sample Date Dec 22, 2022 2:00 PM  
Sample Description Underground Water  
Location 4.5 km from Phatthana  
Date Analysis Commenced Dec 23, 2022  
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>						
Total Dissolved Solids Dried at 180 degrees C *	mg/L	-	124	≤1200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Hardness as CaCO3 *	mg/L	-	52	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok
Turbidity *	NTU	-	1.0	≤2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2130 B	Rayong

Guideline : Groundwater Quality Standards for Drinking Purposes set by Notification of Ministry of Natural Resources and Environment B.E. 2551, Maximum allowable, (1) Suitable Allowance  
Sampling By : Taisak Wongasichai รหัสประจำตัว 3-323-3-9460

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

Approved by  
Siriuk P.  
Siriuk Puengpang  
Supervisor

The above results are valid only for the analyzed (tested) samples as indicated in this report. The part of the report or conditions that are not reported is any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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Siraporn UM-CL-INT (83340)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJW2-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245518  
Date Received : Dec 22, 2022  
Date Reported : Jan 03, 2023  
Report Number : 2532848-3

Page 1 of 1

Sample Number 2245518-5  
Sample Date Dec 22, 2022 2:00 PM  
Sample Description Underground Water  
Location N.S. Uthairatwong  
Date Analysis Commenced Dec 23, 2022  
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Copper	mg/L	0.0003	0.0005	0.0007	≤1.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 31.25 B, 3030 F	Bangkok

Guideline : Groundwater Quality Standards for Drinking Purposes set by Notification of Ministry of Natural Resources and Environment B.E. 2551, Maximum allowable, (1) Soluble Allowance

Sampling By : Tanasak Wongachalawan วทนาศก วงอชลวณ +323-9-9460

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

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Approved by *Savitree N.*  
Savitree Nongsangam  
Manager

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RTS-02 ENGL

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# ภาคผนวก ค-06

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ชีวภาพทางน้ำ





สถานีวิจัยประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ  
อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

Address : 54/5 Moo 1 Map Yang Phon, Pluak Daeng, Rayong, Thailand, 21140

Project Name : Pluak Daeng

รายงานผลการวิเคราะห์แพลงก์ตอนพืช

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
<b>Division Cyanophyta</b>				
<b>Class Cyanophyceae</b>				
<b>Order Chroococcales</b>				
<b>Family Chroococcaceae</b>				
1. <i>Microcystis aeruginosa</i>	55,000	45,000	-	-
<b>Order Nostocales</b>				
<b>Family Oscillatoriaceae</b>				
2. <i>Lyngbya contorta</i>	23,000	-	31,000	-
3. <i>Oscillatoria brevis</i>	-	9,000	-	-
4. <i>Oscillatoria princeps</i>	-	-	-	17,000
5. <i>Oscillatoria</i> sp.	62,000	178,000	31,000	34,000
6. <i>Oscillatoria tenuis</i>	-	-	8,000	-

ตาราง ผลการวิเคราะห์แฟลกก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

(ต่อ)

ชนิดแฟลกก์ตอนพืช	ปริมาณแฟลกก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
<b>Division Chlorophyta</b>				
<b>Class Chlorophyceae</b>				
<b>Order Volvocales</b>				
<b>Family Volvocaceae</b>				
7. <i>Eudorina elegans</i>	16,000	36,000	217,000	252,000
8. <i>Gonium sociale</i>	-	-	-	25,000
9. <i>Pandorina morum</i>	133,000	267,000	853,000	1,848,000
<b>Family Spondylomoraceae</b>				
10. <i>Spondylomorom quarternarium</i>	-	-	-	17,000
<b>Order Chlorococcales</b>				
<b>Family Hydrodictyaceae</b>				
11. <i>Pediastrum duplex</i>	8,000	36,000	-	25,000
12. <i>Pediastrum simplex</i>	8,000	-	16,000	-
<b>Family Coelastraceae</b>				
13. <i>Coelastrum microporum</i>	23,000	-	-	-
<b>Family Oocystaceae</b>				
14. <i>Ankistrodesmus falcatus</i>	101,000	27,000	209,000	227,000
15. <i>Ankistrodesmus spiralis</i>	-	-	16,000	59,000
16. <i>Dictyosphaerium pulchellum</i>	140,000	36,000	85,000	160,000
17. <i>Kirchneriella lunaris</i>	47,000	-	23,000	-
18. <i>Oocystis elliptica</i>	-	18,000	23,000	25,000
19. <i>Selenastrum gracile</i>	-	18,000	16,000	-
20. <i>Tetraedron gracile</i>	8,000	27,000	186,000	588,000
21. <i>Tetraedron trigonum</i>	55,000	-	23,000	50,000
<b>Family Scenedesmaceae</b>				
22. <i>Actinastrum gracillimum</i>	-	-	-	34,000
23. <i>Actinastrum hantzschii</i>	16,000	9,000	16,000	168,000

ตาราง ผลการวิเคราะห์แฟล่งก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

(ต่อ)

ชนิดแฟล่งก์ตอนพืช	ปริมาณแฟล่งก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
24. <i>Crucigenia apiculata</i>	-	169,000	93,000	-
25. <i>Microactinium pusillum</i>	-	-	23,000	84,000
26. <i>Scenedesmus acuminatus</i>	94,000	36,000	-	546,000
27. <i>Scenedesmus arcautus</i>	-	18,000	202,000	101,000
28. <i>Scenedesmus armatus</i>	23,000	134,000	109,000	92,000
29. <i>Scenedesmus dimorphus</i>	406,000	392,000	1,240,000	1,764,000
30. <i>Scenedesmus opoliensis</i>	1,716,000	2,848,000	5,270,000	7,560,000
<b>Order Ulotrichales</b>				
<b>Family Ulotrichaceae</b>				
31. <i>Geminella</i> sp.	-	-	16,000	-
<b>Order Zygomatales</b>				
<b>Family Desmidiaceae</b>				
32. <i>Closterium acerosum</i>	23,000	-	8,000	8,000
33. <i>Closterium ehrenbergii</i>	31,000	36,000	8,000	84,000
34. <i>Closterium gracile</i>	62,000	-	-	-
35. <i>Closterium lineatum</i>	-	-	8,000	-
36. <i>Closterium</i> sp.	23,000	-	23,000	-
37. <i>Staurostrum</i> sp.	16,000	-	-	-
<b>Class Euglenophyceae</b>				
<b>Order Euglenales</b>				
<b>Family Euglenaceae</b>				
38. <i>Euglena acus</i>	47,000	71,000	155,000	42,000
39. <i>Euglena oxyuris</i>	55,000	9,000	23,000	67,000
40. <i>Euglena viridis</i>	31,000	27,000	155,000	89,000
41. <i>Lepocinclis ovum</i>	179,000	98,000	140,000	1,008,000
42. <i>Phacus angulatus</i>	125,000	-	124,000	101,000
43. <i>Phacus hamatus</i>	62,000	80,000	70,000	210,000

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
44. <i>Phacus myersi</i>	55,000	27,000	178,000	92,000
45. <i>Phacus platalea</i>	8,000	-	-	8,000
46. <i>Phacus ranula</i>	-	-	8,000	17,000
47. <i>Phacus</i> sp.	-	-	116,000	-
48. <i>Phacus tortus</i>	211,000	62,000	140,000	42,000
49. <i>Strombomonas deflandrei</i>	94,000	-	953,000	42,000
50. <i>Strombomonas fluviatilia</i>	936,000	712,000	620,000	269,000
51. <i>Strombomonas gbberosa</i>	86,000	45,000	8,000	-
52. <i>Strombomonas girardiana</i>	1,872,000	1,335,000	543,000	1,176,000
53. <i>Trachelomonas conica</i>	-	53,000	-	17,000
54. <i>Trachelomonas crebea</i>	2,348,000	1,780,000	4,185,000	4,200,000
55. <i>Trachelomonas hispida</i>	6,240,000	8,544,000	9,300,000	13,608,000
56. <i>Trachelomonas lacustris</i>	-	-	-	25,000
57. <i>Trachelomonas mirabilis</i>	-	-	62,000	34,000
58. <i>Trachelomonas similis</i>	218,000	623,000	930,000	1,092,000
59. <i>Trachelomonas superba</i>	8,000	-	-	-
<b>Division Chromophyta</b>				
<b>Class Bacillariophyceae</b>				
<b>Order Biddulphiales</b>				
<b>Suborder Coscinodiscineae</b>				
<b>Family Thalassiosiraceae</b>				
60. <i>Cyclotella stelligera</i>	2,395,000	2,492,000	4,495,000	4,872,000
<b>Family Aulacoseiraceae</b>				
61. <i>Aulacoseira granulata</i>	312,000	1,958,000	2,015,000	1,680,000

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
<b>Order Bacillariales</b>				
<b>Suborder Fragilariineae</b>				
<b>Family Fragilariaceae</b>				
62. <i>Fragilaria capucina</i>	-	160,000	-	134,000
63. <i>Synedra acus</i>	-	-	-	34,000
64. <i>Synedra rumpens</i>	-	89,000	-	-
65. <i>Synedra ulna</i>	195,000	285,000	403,000	235,000
<b>Suborder Bacillariineae</b>				
<b>Family Eunotiaceae</b>				
66. <i>Eunotia arcus</i>	8,000	27,000	-	-
67. <i>Eunotia pectinalis</i>	39,000	534,000	93,000	59,000
<b>Family Cymbellaceae</b>				
68. <i>Cymbella tumida</i>	-	-	-	17,000
69. <i>Gomphonema parvulum</i>	86,000	249,000	70,000	109,000
<b>Family Naviculaceae</b>				
70. <i>Amphora</i> sp.	-	53,000	-	-
71. <i>Gyrosigma attenuatum</i>	179,000	356,000	85,000	168,000
72. <i>Gyrosigma scalproidea</i>	-	18,000	-	-
73. <i>Gyrosigma</i> sp.	-	-	-	34,000
74. <i>Navicula cuspidata</i>	8,000	36,000	8,000	8,000
75. <i>Navicula lanceolata</i>	-	45,000	-	42,000
76. <i>Pinnularia gibba</i>	55,000	9,000	-	25,000
77. <i>Pinnularia viridis</i>	-	36,000	62,000	-
<b>Family Bacillariaceae</b>				
78. <i>Nitzschia acicularis</i>	-	-	16,000	-
79. <i>Nitzschia lorenziana</i>	-	9,000	-	-
80. <i>Nitzschia sigmaidea</i>	16,000	36,000	-	-

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

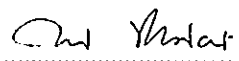
(ต่อ)

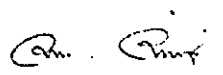
ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
81. <i>Nitzschia</i> sp.	55,000	-	-	-
82. <i>Tryblionella hungarica</i>	-	-	16,000	-
83. <i>Tryblionella victorriae</i>	16,000	80,000	-	-
<b>Family Rhopalodiaceae</b>				
84. <i>Epithemia argus</i>	-	18,000	8,000	-
<b>Family Surirellaceae</b>				
85. <i>Surirella biseriata</i>	-	9,000	-	-
86. <i>Surirella elegans</i>	211,000	71,000	-	-
87. <i>Surirella linearis</i>	156,000	320,000	124,000	151,000
88. <i>Surirella ovata</i>	-	27,000	8,000	17,000
89. <i>Surirella robusta</i>	86,000	62,000	-	50,000
90. <i>Surirella</i> sp.	70,000	-	-	-
91. <i>Surirella tenera</i>	187,000	107,000	-	50,000
<b>Class Crysophyceae</b>				
<b>Order Synurales</b>				
<b>Family Mallomonadaceae</b>				
92. <i>Mallomonas litomesa</i>	86,000	125,000	31,000	67,000
<b>Class Dinophyceae</b>				
<b>Order Peridinales</b>				
<b>Family Peridiniaceae</b>				
93. <i>Peridinium</i> sp.	-	62,000	-	-
ชนิดแพลงก์ตอนพืช	58	60	58	60
ปริมาณแพลงก์ตอนพืช	19,824,000	25,078,000	33,897,000	43,659,000
ดัชนีความหลากหลายแพลงก์ตอนพืช	2.5503	2.5446	2.4699	2.4239
ดัชนีความสม่ำเสมอแพลงก์ตอนพืช	0.7653	0.6215	0.6083	0.5920

**Sample Location :**

1. สถานี 22112235-1 : ห้วยภูไทก่อนจุดระบายน้ำทิ้งที่ 1 ของโครงการประมาณ 500 เมตร (Bio1)
2. สถานี 22112235-2 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 1 ของโครงการ (Bio2)
3. สถานี 22112235-3 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการ (Bio3)
4. สถานี 22112235-4 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการระยะห่างประมาณ 500 เมตร (Bio4)

**Condition of Sample :** contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)

  
.....  
(นางสาวกนกวรรณ ขวาค่อน)  
ผู้วิเคราะห์

  
.....  
(นายอลงกต อินทรชาติ)  
หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ  
อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

Address : 54/5 Moo 1 Map Yang Phon, Pluak Daeng, Rayong, Thailand, 21140

Project Name : Pluak Daeng

รายงานผลการวิเคราะห์แหล่งกักต่อน้ำ

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

ชนิดแหล่งกักต่อน้ำ	ปริมาณแหล่งกักต่อน้ำ (หน่วยต่อดูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizopoda				
Order Testacida				
Family Arcellidae				
1. <i>Arcella</i> sp.	23,000	18,000	31,000	50,000
2. <i>Arcella vulgaris</i>	16,000	18,000	-	34,000
Family Diffugiidae				
3. <i>Diffugia acuminata</i>	16,000	-	-	-
4. <i>Diffugia lobostoma</i>	-	-	-	8,000
Family Euglyphidae				
5. <i>Euglypha acanthophora</i>	-	-	8,000	25,000
6. <i>Euglypha rotunda</i>	-	27,000	16,000	-
7. <i>Euglypha</i> sp.	-	-	-	17,000



ตาราง ผลการวิเคราะห์เพลงก้นสัตว์ (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

(ต่อ)

ชนิดเพลงก้นสัตว์	ปริมาณเพลงก้นสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
<b>Subphylum Ciliophora</b>				
<b>Class Ciliata</b>				
<b>Subclass Holotricha</b>				
<b>Order Gymnostomatida</b>				
8. <i>Coleps</i> sp.	-	-	31,000	-
9. <i>Holophrya</i> sp.	-	-	8,000	-
<b>Subclass Peritricha</b>				
<b>Order Peritrichida</b>				
10. <i>Pyxicola</i> sp.	-	-	8,000	8,000
11. <i>Vorticella</i> sp.	-	18,000	-	-
<b>Phylum Rotifera</b>				
<b>Class Monogononta</b>				
<b>Order Ploima</b>				
<b>Family Brachionidae</b>				
12. <i>Collotheca ornata</i>	8,000	-	-	-
13. <i>Colurella obtusa</i>	8,000	9,000	-	-
14. <i>Lepadella acuminata</i>	-	-	-	8,000
<b>Family Notommatidae</b>				
15. <i>Cephalodella gibba</i>	16,000	9,000	-	-
<b>Family Gastropodidae</b>				
16. <i>Ascomorpha</i> sp.	-	-	8,000	-
<b>Family Asplanchnidae</b>				
17. <i>Asplanchna priodonta</i>	-	-	-	8,000
18. <i>Asplanchna</i> sp.	16,000	18,000	8,000	-
<b>Family Synchaetidae</b>				
19. <i>Polyarthra dolichoptera</i>	8,000	-	-	-
20. <i>Polyarthra vulgaris</i>	-	9,000	-	8,000

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

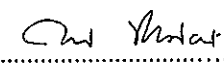
(ต่อ)

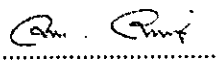
ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	22112235-1	22112235-2	22112235-3	22112235-4
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
Suborder Cladocera				
Family Bosminidae				
21. <i>Bosminopsis neggrensensis</i>	-	-	8,000	-
ชนิดแพลงก์ตอนสัตว์	8	8	9	9
ปริมาณแพลงก์ตอนสัตว์	111,000	126,000	126,000	166,000
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	2.0116	2.0076	2.0023	1.9354
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.9674	0.9655	0.9113	0.8808

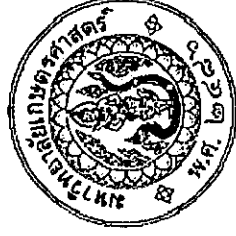
**Sample Location :**

1. สถานี 22112235-1 : ห้วยภูไทก่อนจุดระบายน้ำทิ้งที่ 1 ของโครงการประมาณ 500 เมตร (Bio1)
2. สถานี 22112235-2 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 1 ของโครงการ (Bio2)
3. สถานี 22112235-3 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการ (Bio3)
4. สถานี 22112235-4 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการระยะห่างประมาณ 500 เมตร (Bio4)

**Condition of Sample :** contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)

  
 (นางสาวกนกวรรณ ขาวดอน)  
 ผู้วิเคราะห์

  
 (นายอลงกต อินทรชาติ)  
 หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

Address : 54/5 Moo 1 Map Yang Phon, Pluak Daeng, Rayong, Thailand, 21140

Project Name : Pluak Daeng

### รายงานผลการวิเคราะห์สัตว์น้ำ

ตาราง ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 12 ธันวาคม 2565)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	22112235-1	22112235-2	22112235-3	22112235-4		
Phylum Chordata Class Actinopterygii Order Anabantiformes Family Osphronemidae <i>Trichopodus trichopterus</i> (ปลาทอง)	-	-	2	1	6.70-7.40	17.00

ตาราง ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 12 ธันวาคม 2565) (ต่อ)

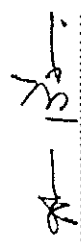
ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	22112235-1	22112235-2	22112235-3	22112235-4		
<b>Order Cichliformes</b>						
<b>Family Cichlidae</b>						
<i>Oreochromis niloticus</i> (ปลานิล)	2	-	1	-	6.80-10.60	42.00
<b>Order Cypriniformes</b>						
<b>Family Cyprinidae</b>						
<i>Barbonymus gonionotus</i> (ปลาคะเพียนขาว)	3	-	-	-	8.40-14.10	73.00
<i>Cyclocheilichthys apogon</i> (ปลาไส้ตันตาแดง)	1	-	1	-	8.70-9.80	19.00
<i>Labiochanna leptocentrus</i> (ปลาซ่า)	-	-	1	-	11.30	13.00
<i>Puntius brevis</i> (ปลาคะเพียนทราย)	4	2	2	2	6.00-8.00	48.00
<i>Rasbora paviana</i> (ปลาจิ๋วควายแถบดำ)	2	1	-	1	8.00-9.70	15.00
<b>Order Osteoglossiformes</b>						
<b>Family Notopteridae</b>						
<i>Notopterus notopterus</i> (ปลาสลัด)	1	-	-	-	17.00	33.00
<b>Order Perciformes</b>						
<b>Family Ambassidae</b>						
<i>Parambassis siamensis</i> (ปลาเป็นแก้ว)	3	1	1	1	4.50-5.10	10.00

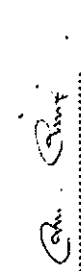
ตาราง ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 12 ธันวาคม 2565) (ต่อ)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด	น้ำหนักรวม
		22112235-1	22112235-2	22112235-3	22112235-4		
ชนิดสัตว์น้ำ	7		3	6	4	(ซม.)	(กรัม)
ปริมาณสัตว์น้ำ	16		4	8	5	4.50-17.00	270.00
ดัชนีความหลากหลายสัตว์น้ำ	1.8407		1.0397	1.7329	1.3322		

- Sample Location :
1. สถานี 22112235-1 : ห้วยภูไทก่อนจุดระบายน้ำทั้งที่ 1 ของโครงการประมาณ 500 เมตร (Bio1)
  2. สถานี 22112235-2 : ห้วยภูไทบริเวณจุดระบายน้ำทั้งที่ 1 ของโครงการ (Bio2)
  3. สถานี 22112235-3 : ห้วยภูไทบริเวณจุดระบายน้ำทั้งที่ 2 ของโครงการ (Bio3)
  4. สถานี 22112235-4 : ห้วยภูไทบริเวณจุดระบายน้ำทั้งที่ 2 ของโครงการระยะห่างประมาณ 500 เมตร (Bio4)

Condition of Sample : fishing gear

  
 .....  
 (นายสาโรจน์ เร่มคำริห์)  
 ผู้วิเคราะห์

  
 .....  
 (นายอลงกต อินทรชาติ)  
 หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Rayong 2 Co., Ltd.

Address : 54/5 Moo 1 Map Yang Phon, Pluak Daeng, Rayong, Thailand, 21140

Project Name : Pluak Daeng

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)			
	22112237-1	22112237-2	22112237-3	22112237-4
Phylum Annelida				
Class Clitellata				
Order Lumbriculida				
Family Lumbriculidae				
<i>Lumbriculus</i> sp. (ไส้เดือนน้ำจืด)	15	45	-	-
Order Tubificida				
Family Naididae				
<i>Tubifex</i> sp. (ไส้เดือนน้ำจืด)	-	30	-	-
Phylum Arthropoda				
Class Insecta				
Order Diptera				
Family Chironomidae				
<i>Chironomus</i> sp. (หนอนแดง)	149	15	15	-
Order Odonata				
Family Gomphidae				
<i>Progomphus</i> sp. (แมลงปอ)	-	30	-	-

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 12 ธันวาคม 2565)(ต่อ)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)			
	22112237-1	22112237-2	22112237-3	22112237-4
<b>Order Trichoptera</b>				
<b>Family Ecomidae</b>				
<i>Ecnomus</i> sp. (ตัวอ่อนแมลงหนอนปลอกน้ำ)	-	15	-	-
<b>Phylum Mollusca</b>				
<b>Class Gastropoda</b>				
<b>Order Architenioglossa</b>				
<b>Family Thiaridae</b>				
<i>Melanoides</i> sp. (หอยเจดีย์)	-	-	-	15
<i>Tarebia</i> sp. (หอยเจดีย์)	-	-	30	89
<b>Class Bivalvia</b>				
<b>Order Venerida</b>				
<b>Family Cyrenidae</b>				
<i>Corbicula</i> sp. (หอยทราย)	2,854	15	-	-
<b>ชนิดสัตว์หน้าดิน</b>	<b>3</b>	<b>6</b>	<b>2</b>	<b>2</b>
<b>ปริมาณสัตว์หน้าดิน</b>	<b>3,018</b>	<b>150</b>	<b>45</b>	<b>104</b>
<b>ค่าดัชนีความหลากหลายสัตว์หน้าดิน</b>	<b>0.2277</b>	<b>1.6957</b>	<b>0.6365</b>	<b>0.4126</b>

**Sample Location :** 1. สถานี 22112237-1 : ห้วยภูไทก่อนจุดระบายน้ำทิ้งที่ 1 ของโครงการประมาณ 500 เมตร (Bio1)

2. สถานี 22112237-2 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 1 ของโครงการ (Bio2)

3. สถานี 22112237-3 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการ (Bio3)

4. สถานี 22112237-4 : ห้วยภูไทบริเวณจุดระบายน้ำทิ้งที่ 2 ของโครงการระยะห่างประมาณ 500 เมตร (Bio4)

**Condition of Sample :** contained in one plastic zip bag

.....

(นายอรรถวุฒิ กันทะวงศ์)

ผู้วิเคราะห์

.....

(นายอลงกต อินทชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา

# ภาคผนวก ค-07

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โลหะหนักในตะกอนดิน





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245633  
Date Received : Jun 17, 2022  
Date Reported : Jun 24, 2022  
Report Number : 2286372-1

Page 1 of 4

Sample Number : 2245633-1  
Sample Date : Jun 17, 2022 11:00 AM  
Sample Description : แร่ธาตุ  
Location : หมู่บ้านชุมชนวัดใหม่ 1 ตำบลนาบึง 500 ไร่ (SD1)  
Date Analysis Commenced : Jun 20, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>						
Aluminum	mg/kg	1.00	5416	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	1.00	5.45	≤35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	1.00	4.22	≤5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	1.00	11.0	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	1.00	28.2	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Narurat thammassaro

Remark :  
• LOD : Limit of Detection  
• "c" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by  
*Savitree N.*  
Savitree Nibangiam  
Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

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8135-62 (WAL)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-019/64  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 2245633  
Date Received : Jun 17, 2022  
Date Reported : Jun 24, 2022  
Report Number : 2286372-1

Page 2 of 4

Sample Number : 2245633-2  
Sample Date : Jun 17, 2022 10:40 AM  
Sample Description : แร่ธาตุ  
Location : หมู่บ้านชุมชนวัดใหม่ 1 ตำบลนาบึง (SD2)  
Date Analysis Commenced : Jun 20, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>						
Aluminum	mg/kg	1.00	8699	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	1.00	9.87	≤35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	1.00	8.08	≤5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	1.00	12.2	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	1.00	53.7	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Narurat thammassaro

Remark :  
• LOD : Limit of Detection  
• "c" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by  
*Savitree N.*  
Savitree Nibangiam  
Manager

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8135-62 (WAL)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 2245633  
Date Received : Jun 17, 2022  
Date Reported : Jun 24, 2022  
Report Number : 2285372-1

Page 3 of 4

Sample Number : 2245633-3  
Sampled Date : Jun 17, 2022 9:40 AM  
Sample Description : สานาฟลู  
Location : ข้างทางรถไฟสายชุมทางรถไฟ 2 และโรงงานอุตสาหกรรม 500 เมตร (S03)  
Date Analysis Commenced : Jun 20, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>						
Aluminum	mg/kg	-	1.00	4726	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	5.28	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	4.09	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	6.97	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	22.6	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Narurat thammisaro

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

Approved by  
*Savitree N.*  
Savitree Nisangam  
Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RIN(2)-019/64  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 2245633  
Date Received : Jun 17, 2022  
Date Reported : Jun 24, 2022  
Report Number : 2285372-1

Page 4 of 4

Sample Number : 2245633-4  
Sampled Date : Jun 17, 2022 10:10 AM  
Sample Description : สานาฟลู  
Location : ข้างทางรถไฟสายชุมทางรถไฟ 2 และโรงงานอุตสาหกรรม 500 เมตร (S04)  
Date Analysis Commenced : Jun 20, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>						
Aluminum	mg/kg	-	1.00	10840	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	7.30	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	6.26	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	11.8	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	38.7	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Narurat thammisaro

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

Approved by  
*Savitree N.*  
Savitree Nisangam  
Manager

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# ภาคผนวก ค-08

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คุณภาพดิน



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22112240  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2430022-1

Page 1 of 4

Sample Number : 22112240-1  
Sampled Date : Oct 21, 2022 10:30 AM  
Sample Description : Soil ที่บริเวณด้าน S ของ  
Location : พื้นที่ด้านข้างอาคาร (S1)  
Date Analysis Commenced : Oct 24, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	2204	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	\$25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	\$762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	2.55	\$35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	\$212	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	\$263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	2.09	\$5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	9.14	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	10.8	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E. 2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanassorn Namakuna

Remark :

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

Technical Management : Chanett L.  
Supervisor : Chanattagarn Inthorn  
vithunnaat 7-204-a-4710  
Approved by : Kanokorn Anuk  
Senior Manager  
vithunnaat 7-204-a-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22112240  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2430022-1

Page 2 of 4

Sample Number : 22112240-2  
Sampled Date : Oct 21, 2022 11:10 AM  
Sample Description : Soil ที่บริเวณด้าน S ของ  
Location : พื้นที่ด้านข้างอาคาร (S2)  
Date Analysis Commenced : Oct 24, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	4163	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	\$25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	\$762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	2.66	\$35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	\$212	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	\$263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	3.28	\$5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	15.9	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	5.61	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E. 2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanassorn Namakuna

Remark :

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

Technical Management : Chanett L.  
Supervisor : Chanattagarn Inthorn  
vithunnaat 7-204-a-4710  
Approved by : Kanokorn Anuk  
Senior Manager  
vithunnaat 7-204-a-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22112240  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2430022-1

Page 3 of 4

Sample Number 22112240-3  
Sample Date Oct 21, 2022 11:55 AM  
Sample Description Soil ที่ดินบริเวณ 5 ไร่.  
Location ที่ดินอุตสาหกรรม (S3)  
Date Analysis Commenced Oct 24, 2022  
Condition of Sample Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/kg	-	1.00	1799	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 6010D	Bangkok
Copper	mg/kg	-	1.00	<1.00	≤35040	Based on US EPA, Method 3050B and 6010D	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	<1.00	≤5205	Based on US EPA, Method 3050B and 6010D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	9.16	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Zinc	mg/kg	-	1.00	2.38	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanasoun Namakunna

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

Technical Management Chanatt L.  
Chanatagarn Incbon  
Supervisor  
วิบูลย์ 204-4-710  
Approved by Kanokorn Anuk  
Senior Manager  
วิบูลย์ 204-4-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22112240  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2430022-1

Page 4 of 4

Sample Number 22112240-4  
Sample Date Oct 21, 2022 10:20 AM  
Sample Description Soil ที่ดินบริเวณ 5 ไร่.  
Location ที่ดินอุตสาหกรรม (S4)  
Date Analysis Commenced Oct 24, 2022  
Condition of Sample Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/kg	-	1.00	1545	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 6010D	Bangkok
Copper	mg/kg	-	1.00	1.31	≤35040	Based on US EPA, Method 3050B and 6010D	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7156A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	1.14	≤5205	Based on US EPA, Method 3050B and 6010D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	6.20	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Zinc	mg/kg	-	1.00	5.21	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanasoun Namakunna

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

Technical Management Chanatt L.  
Chanatagarn Incbon  
Supervisor  
วิบูลย์ 204-4-710  
Approved by Kanokorn Anuk  
Senior Manager  
วิบูลย์ 204-4-6111

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8035-02/PAL S/Superior\_ML\_01.01 (2.0099)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22112243  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2400030-1

Page 1 of 4

Sample Number : 22112243-1  
Sample Date : Oct 21, 2022 10:35 AM  
Sample Description : Soil 30 ซม.  
Location : ทุ่งดินนาพื้นที่ (S1)  
Date Analysis Commenced : Oct 24, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/kg	-	1.00	2034	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	2.30	≤35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	7.32	≤5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	27.0	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	6.64	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E. 2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanassou Namakuma

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

Technical Management : *Chenatt L.*  
Approved by : *Kankom Anek*  
Senior Manager  
วิมลสุพรรณ 3-204-6-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22112243  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number : 2400030-1

Page 2 of 4

Sample Number : 22112243-2  
Sample Date : Oct 21, 2022 11:15 AM  
Sample Description : Soil 30 ซม.  
Location : ทุ่งดินนาพื้นที่ (S2)  
Date Analysis Commenced : Oct 24, 2022  
Condition of Sample : Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/kg	-	1.00	5081	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 60100	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 60100	Bangkok
Copper	mg/kg	-	1.00	1.92	≤35040	Based on US EPA, Method 3050B and 60100	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	4.23	≤5205	Based on US EPA, Method 3050B and 60100	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Trivalent Chromium	mg/kg	-	1.00	13.7	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok
Zinc	mg/kg	-	1.00	5.14	No Standard	Based on US EPA, Method 3050B and 60100	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E. 2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanassou Namakuma

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

Technical Management : *Chenatt L.*  
Approved by : *Kankom Anek*  
Senior Manager  
วิมลสุพรรณ 3-204-6-6111

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22112243  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number: 2430030-1

Page 3 of 4

Sample Number 22112243-3  
Sample Date Oct 21, 2022 11:00 AM  
Sample Description Soil ที่สถานีเก็บ 30 ซม.  
Location พื้นที่การเกษตรสวน (S3)  
Date Analysis Commenced Oct 24, 2022  
Condition of Sample Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	3542	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 6010D	Bangkok
Copper	mg/kg	-	1.00	2.06	≤35040	Based on US EPA, Method 3050B and 6010D	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	1.35	≤5205	Based on US EPA, Method 3050B and 6010D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	9.17	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Zinc	mg/kg	-	1.00	7.46	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanasoun Namakuma

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

Technical Management Chanath L. Chanatagarn Inchoom Supervisor  
Approved by Kanokorn Anuk Senior Manager  
วิรัตน์ 204-4710

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ALS LABORATORY GROUP (THAILAND) CO., LTD. AN ALS LIMITED COMPANY



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22112243  
Date Received : Oct 21, 2022  
Date Reported : Oct 29, 2022  
Report Number: 2430030-1

Page 4 of 4

Sample Number 22112243-4  
Sample Date Oct 21, 2022 10:25 AM  
Sample Description Soil ที่สถานีเก็บ 30 ซม.  
Location พื้นที่การเกษตรสวน (S4)  
Date Analysis Commenced Oct 24, 2022  
Condition of Sample Packed in one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	916	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Arsenic	mg/kg	-	0.50	<0.50	≤25	Based on US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	Based on US EPA, Method 3050B and 6010D	Bangkok
Copper	mg/kg	-	1.00	<1.00	≤35040	Based on US EPA, Method 3050B and 6010D	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	Based on US EPA, Method 3060A and 7196A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Nickel	mg/kg	-	1.00	4.82	≤5205	Based on US EPA, Method 3050B and 6010D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	12.1	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Zinc	mg/kg	-	1.00	2.09	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.  
Sampled By : Thanasoun Namakuma

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

Technical Management Chanath L. Chanatagarn Inchoom Supervisor  
Approved by Kanokorn Anuk Senior Manager  
วิรัตน์ 204-4710

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# ภาคผนวก ค-09

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ระดับเสียงโดยทั่วไป





TESTING  
No.0042

## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUK(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147439  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534435-1

Page 1 of 1

Sample Number	22147439-1		
Parameter	Noise (Leq 24 hrs.)		
Location	บริเวณด้านใน (N1) (GPS 47P 734053, 1432206)		
Measurement Date	Dec 19 - Dec 20, 2022		
Measurement by	Sirwit Ruangsom		
Sound Level meter	Serial No. 296518		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	65.5	92.1	46.8
01:00 PM - 02:00 PM	64.1	89.4	46.0
02:00 PM - 03:00 PM	65.2	90.1	44.5
03:00 PM - 04:00 PM	67.1	92.7	45.8
04:00 PM - 05:00 PM	68.0	91.6	51.5
05:00 PM - 06:00 PM	67.9	94.5	52.0
06:00 PM - 07:00 PM	65.7	85.3	51.1
07:00 PM - 08:00 PM	66.0	88.2	50.3
08:00 PM - 09:00 PM	62.6	88.2	46.0
09:00 PM - 10:00 PM	61.2	87.6	43.9
10:00 PM - 11:00 PM	57.1	87.8	42.5
11:00 PM - 12:00 AM	55.1	84.4	41.5
12:00 AM - 01:00 AM	50.6	82.7	39.5
01:00 AM - 02:00 AM	53.1	85.7	39.6
02:00 AM - 03:00 AM	52.5	81.4	39.2
03:00 AM - 04:00 AM	60.5	93.1	39.5
04:00 AM - 05:00 AM	58.7	81.7	41.0
05:00 AM - 06:00 AM	66.3	90.3	49.0
06:00 AM - 07:00 AM	67.9	90.4	51.9
07:00 AM - 08:00 AM	67.1	92.8	48.2
08:00 AM - 09:00 AM	65.2	90.1	47.8
09:00 AM - 10:00 AM	64.9	92.4	46.9
10:00 AM - 11:00 AM	63.8	88.7	45.4
11:00 AM - 12:00 PM	66.0	91.1	45.4

Technical Management

Tharitak.

Approved by

Supt S.

Thantia Kulsirirong

Scientist (4)

Supot Salameh

Section Head

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TESTING  
No.0042

## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUK(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147439  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534435-1

Page 1 of 1

Sample Number	22147439-2		
Parameter	Noise (Leq 24 hrs.)		
Location	พื้นที่บ้านใน (N1) (GPS 47P 734053, 1432206)		
Measurement Date	Dec 20 - Dec 21, 2022		
Measurement by	Sirwit Ruangsom		
Sound Level meter	Serial No. 296518		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	65.7	91.2	43.2
01:00 PM - 02:00 PM	64.5	90.6	42.1
02:00 PM - 03:00 PM	64.5	94.3	41.6
03:00 PM - 04:00 PM	65.3	90.6	45.5
04:00 PM - 05:00 PM	68.1	91.2	49.8
05:00 PM - 06:00 PM	67.2	88.8	52.0
06:00 PM - 07:00 PM	66.5	87.6	52.7
07:00 PM - 08:00 PM	65.4	88.8	50.3
08:00 PM - 09:00 PM	63.1	90.9	47.6
09:00 PM - 10:00 PM	61.8	91.7	45.0
10:00 PM - 11:00 PM	60.2	89.7	42.3
11:00 PM - 12:00 AM	56.1	80.6	42.0
12:00 AM - 01:00 AM	55.3	82.1	41.7
01:00 AM - 02:00 AM	53.4	82.8	39.6
02:00 AM - 03:00 AM	59.6	91.5	38.9
03:00 AM - 04:00 AM	57.3	85.4	39.3
04:00 AM - 05:00 AM	59.4	83.6	40.8
05:00 AM - 06:00 AM	66.5	86.7	49.8
06:00 AM - 07:00 AM	68.8	88.8	53.7
07:00 AM - 08:00 AM	67.1	92.4	48.0
08:00 AM - 09:00 AM	64.4	91.1	46.3
09:00 AM - 10:00 AM	64.2	87.2	46.2
10:00 AM - 11:00 AM	65.3	91.6	46.2
11:00 AM - 12:00 PM	64.4	88.1	44.4

Technical Management

Tharitak.

Approved by

Supt S.

Thantia Kulsirirong

Scientist (4)

Supot Salameh

Section Head

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S:\Report\Air Noise\pr 1110649



TESTING  
No.0042

Lot ID: 22147439  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534437-1



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Sample Number : 22147439-3  
Parameter : Noise (Leq 24 hrs.)  
Location : บ้านสวนหิน (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 21 - Dec 22, 2022  
Measurement by : Sirwit Ruangsorn  
Sound Level meter : Serial No. 296518

Page 1 of 1

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.4	89.6	44.1
01:00 PM - 02:00 PM	64.4	92.6	47.5
02:00 PM - 03:00 PM	65.9	97.0	41.1
03:00 PM - 04:00 PM	65.7	92.5	45.5
04:00 PM - 05:00 PM	68.1	92.6	51.5
05:00 PM - 06:00 PM	68.8	89.8	51.2
06:00 PM - 07:00 PM	66.2	89.6	50.5
07:00 PM - 08:00 PM	65.3	85.1	48.7
08:00 PM - 09:00 PM	63.1	87.2	46.7
09:00 PM - 10:00 PM	59.5	84.0	43.9
10:00 PM - 11:00 PM	59.4	89.1	42.7
11:00 PM - 12:00 AM	54.7	83.5	40.5
12:00 AM - 01:00 AM	54.5	83.4	41.0
01:00 AM - 02:00 AM	55.7	84.0	44.1
02:00 AM - 03:00 AM	55.3	86.1	44.5
03:00 AM - 04:00 AM	58.1	85.5	45.9
04:00 AM - 05:00 AM	59.6	88.6	50.7
05:00 AM - 06:00 AM	66.9	92.4	53.4
06:00 AM - 07:00 AM	68.5	90.2	50.8
07:00 AM - 08:00 AM	67.0	94.9	45.5
08:00 AM - 09:00 AM	64.8	95.2	44.0
09:00 AM - 10:00 AM	65.6	92.2	45.0
10:00 AM - 11:00 AM	63.2	86.2	46.5
11:00 AM - 12:00 PM	63.9		

Leq Average 24 hrs. (dB(A)) 64.5

Lmax (dB(A)) 97.0

L90 (dB(A)) 45.5

Ldn (dB(A)) 70

Standard (dB(A)) 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. กรมควบคุมมลพิษของประเทศไทย ฉบับที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในท้องถิ่น

2. กรมควบคุมมลพิษของประเทศไทย ฉบับที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในท้องถิ่น

Team พ.ศ. 2548

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

Technical Management : *Thairitak.*

Approved by

Supot Salanteh

Section Head

Scientist (4)

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S.Voparaj, Air Noise rpt (11:06AM)



TESTING  
No.0042

Lot ID: 22147439  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534438-1



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Sample Number : 22147439-4  
Parameter : Noise (Leq 24 hrs.)  
Location : บ้านสวนหิน (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 22 - Dec 23, 2022  
Measurement by : Sirwit Ruangsorn  
Sound Level meter : Serial No. 296518

Page 1 of 1

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.0	90.0	44.1
01:00 PM - 02:00 PM	63.4	90.6	40.4
02:00 PM - 03:00 PM	63.8	93.7	40.6
03:00 PM - 04:00 PM	65.0	89.2	42.5
04:00 PM - 05:00 PM	68.8	92.1	52.0
05:00 PM - 06:00 PM	67.7	93.6	52.3
06:00 PM - 07:00 PM	66.5	85.5	52.7
07:00 PM - 08:00 PM	66.2	89.5	52.2
08:00 PM - 09:00 PM	62.7	89.9	47.9
09:00 PM - 10:00 PM	63.1	92.7	49.1
10:00 PM - 11:00 PM	60.0	90.5	45.4
11:00 PM - 12:00 AM	58.3	86.0	42.5
12:00 AM - 01:00 AM	56.2	83.6	42.2
01:00 AM - 02:00 AM	54.2	84.3	41.3
02:00 AM - 03:00 AM	53.6	80.9	40.5
03:00 AM - 04:00 AM	55.6	84.6	38.8
04:00 AM - 05:00 AM	59.1	85.6	42.1
05:00 AM - 06:00 AM	66.0	87.1	49.0
06:00 AM - 07:00 AM	67.8	90.1	52.2
07:00 AM - 08:00 AM	66.8	89.4	50.2
08:00 AM - 09:00 AM	64.1	87.7	42.8
09:00 AM - 10:00 AM	64.9	92.9	42.7
10:00 AM - 11:00 AM	65.1	91.4	43.3
11:00 AM - 12:00 PM	65.7	90.5	42.5

Leq Average 24 hrs. (dB(A)) 64.5

Lmax (dB(A)) 93.7

L90 (dB(A)) 42.8

Ldn (dB(A)) 115

Standard (dB(A)) 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. กรมควบคุมมลพิษของประเทศไทย ฉบับที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในท้องถิ่น

2. กรมควบคุมมลพิษของประเทศไทย ฉบับที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในท้องถิ่น

Team พ.ศ. 2548

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

Technical Management : *Thairitak.*

Approved by

Supot Salanteh

Section Head

Scientist (4)

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S.Voparaj, Air Noise rpt (11:06AM)



TESTING  
No.0042

## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RM(2)-030765  
Project Name : Pluak Daeng

Page 1 of 1

Sample Number	22147439-6			
Parameter	Noise (Leq, 24 hrs.)			
Location	1th Floor Rawatani (N1) (GPS 47P 734053, 1432206)			
Measurement Date	Dec 24 - Dec 25, 2022			
Measurement by	Silwit Ruangsom			
Sound Level meter	Serial No. 295518			
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))	
12:00 PM - 01:00 PM	66.0	94.0	45.1	
01:00 PM - 02:00 PM	65.1	90.5	44.1	
02:00 PM - 03:00 PM	64.2	86.7	43.4	
03:00 PM - 04:00 PM	67.2	89.4	48.8	
04:00 PM - 05:00 PM	68.2	90.0	50.4	
05:00 PM - 06:00 PM	67.4	92.1	50.0	
06:00 PM - 07:00 PM	66.2	94.8	50.3	
07:00 PM - 08:00 PM	64.3	90.9	47.2	
08:00 PM - 09:00 PM	64.4	91.0	46.2	
09:00 PM - 10:00 PM	62.4	91.3	45.1	
10:00 PM - 11:00 PM	61.2	86.1	43.7	
11:00 PM - 12:00 AM	62.0	88.3	42.8	
12:00 AM - 01:00 AM	58.0	87.1	42.0	
01:00 AM - 02:00 AM	54.2	83.6	40.4	
02:00 AM - 03:00 AM	56.4	86.6	39.7	
03:00 AM - 04:00 AM	57.5	85.9	40.2	
04:00 AM - 05:00 AM	57.2	82.2	40.4	
05:00 AM - 06:00 AM	61.8	85.2	42.9	
06:00 AM - 07:00 AM	66.2	88.2	47.7	
07:00 AM - 08:00 AM	65.3	92.8	45.4	
08:00 AM - 09:00 AM	65.2	90.3	47.3	
09:00 AM - 10:00 AM	65.8	90.0	46.2	
10:00 AM - 11:00 AM	65.0	91.7	44.5	
11:00 AM - 12:00 PM	65.2	94.5	42.6	

L <sub>eq</sub> Average 24 hrs. (dB(A))	64.4	
L <sub>max</sub> (dB(A))		94.8
L <sub>90</sub> (dB(A))	68.4	
L <sub>dln</sub> (dB(A))	70	
Standard (dB(A))		115

Reference Method : ISO 9996-1 and 1996-2

Standard : 1. ประกาศกระทรวงมหาดไทยว่าด้วยการกำหนดค่าระดับเสียง  
2. ประกาศกระทรวงสาธารณสุขว่าด้วยมาตรฐานการควบคุมเสียงรบกวนในชุมชน พ.ศ. 2548

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

Tharita K.

**Approved by**

**Thanita Kulsuriwong**

**Supot Salamteh**

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S:\Reports\Air Noise.rpt (11:07AM)



## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/N(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 1



TESTING  
No.0042  
Lot ID: 22147439

Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534441-1

Sample Number	22147439-7
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณภายใน 2 ข้างถนนพหลโยธิน 15 (N2) (GPS 47P 734053, 1432206)
Measurement Date	Dec 25 - Dec 26, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 296518

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.5	92.8	43.4
01:00 PM - 02:00 PM	65.0	93.0	47.7
02:00 PM - 03:00 PM	65.6	94.3	51.7
03:00 PM - 04:00 PM	65.6	90.9	51.1
04:00 PM - 05:00 PM	67.3	90.4	50.7
05:00 PM - 06:00 PM	64.9	86.5	49.3
06:00 PM - 07:00 PM	63.8	87.1	50.1
07:00 PM - 08:00 PM	63.6	86.7	48.6
08:00 PM - 09:00 PM	60.5	83.9	45.3
09:00 PM - 10:00 PM	59.4	88.8	42.3
10:00 PM - 11:00 PM	57.8	92.2	41.0
11:00 PM - 12:00 AM	52.4	77.0	41.7
01:00 AM - 02:00 AM	53.0	80.6	41.2
02:00 AM - 03:00 AM	52.0	83.4	40.9
03:00 AM - 04:00 AM	54.4	80.9	38.3
04:00 AM - 05:00 AM	59.1	88.2	39.0
05:00 AM - 06:00 AM	64.6	88.0	49.5
06:00 AM - 07:00 AM	68.3	90.6	53.7
07:00 AM - 08:00 AM	68.9	93.1	48.3
08:00 AM - 09:00 AM	66.4	93.1	47.0
09:00 AM - 10:00 AM	67.3	86.2	50.1
10:00 AM - 11:00 AM	68.2	92.8	47.4
11:00 AM - 12:00 PM	66.2	86.2	50.5

Leq Average 24 hrs. (dB(A)) 64.4

Lmax (dB(A)) 94.3  
L90 (dB(A)) 47.4  
Ldn (dB(A))

Standard (dB(A)) 115  
Reference Method : ISO1996-1 and 1996-2  
Standard : 1. กรมควบคุมมลพิษ (กรมควบคุมมลพิษ) ส่วนที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในเวลากลางวันและกลางคืน  
2. กรมควบคุมมลพิษ (กรมควบคุมมลพิษ) ส่วนที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในเวลากลางวันและกลางคืน  
หมายเหตุ : 2548  
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Tharitat.

Approved by

Supt S.

Supot Salameh  
Scientist (4)  
Section Head

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8335-02 EMAIL

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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/N(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Page 1 of 1



TESTING  
No.0042  
Lot ID: 22147439

Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534442-1

Sample Number	22147439-8
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณภายใน 2 ข้างถนนพหลโยธิน 15 (N2) (GPS 47P 733675, 1434009)
Measurement Date	Dec 19 - Dec 20, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	63.3	88.9	48.9
01:00 PM - 02:00 PM	61.8	82.5	43.3
02:00 PM - 03:00 PM	61.5	80.1	43.2
03:00 PM - 04:00 PM	63.9	88.9	44.6
04:00 PM - 05:00 PM	65.4	84.2	50.3
05:00 PM - 06:00 PM	66.1	88.3	53.2
06:00 PM - 07:00 PM	65.0	88.5	52.5
07:00 PM - 08:00 PM	63.7	83.7	51.8
08:00 PM - 09:00 PM	60.8	83.4	48.4
09:00 PM - 10:00 PM	60.5	83.3	46.2
10:00 PM - 11:00 PM	55.0	77.9	44.6
11:00 PM - 12:00 AM	53.1	77.8	43.8
12:00 AM - 01:00 AM	51.0	81.7	42.2
01:00 AM - 02:00 AM	49.1	72.3	43.4
02:00 AM - 03:00 AM	51.5	74.0	41.6
03:00 AM - 04:00 AM	52.5	76.3	41.1
04:00 AM - 05:00 AM	58.9	86.2	48.9
05:00 AM - 06:00 AM	64.4	88.7	54.7
06:00 AM - 07:00 AM	67.9	87.6	46.9
07:00 AM - 08:00 AM	64.8	88.5	46.6
08:00 AM - 09:00 AM	63.6	89.8	45.7
09:00 AM - 10:00 AM	63.7	89.3	45.3
10:00 AM - 11:00 AM	61.5	83.2	45.3
11:00 AM - 12:00 PM	63.7	84.0	45.0

Leq Average 24 hrs. (dB(A)) 62.7

Lmax (dB(A)) 89.8  
L90 (dB(A)) 45.3  
Ldn (dB(A))

Standard (dB(A)) 115  
Reference Method : ISO1996-1 and 1996-2  
Standard : 1. กรมควบคุมมลพิษ (กรมควบคุมมลพิษ) ส่วนที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในเวลากลางวันและกลางคืน  
2. กรมควบคุมมลพิษ (กรมควบคุมมลพิษ) ส่วนที่ 15 (พ.ศ. 2540) สำหรับมาตรฐานระดับเสียงในเวลากลางวันและกลางคืน  
หมายเหตุ : 2548  
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Tharitat.

Approved by

Supt S.

Supot Salameh  
Scientist (4)  
Section Head

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8335-02 EMAIL

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TESTING  
No.0042

Lot ID: 22147439  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534443-1

## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/N(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 1

Sample Number	22147439-9
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณด้านหน้า หมู่ 2 อ.บ้านนาโพธิ์ 15 (N2) (GPS 47P 733675, 1434008)
Measurement Date	Dec 20 - Dec 21, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	62.2	83.7	43.7
01:00 PM - 02:00 PM	61.9	85.6	41.1
02:00 PM - 03:00 PM	61.4	83.6	41.6
03:00 PM - 04:00 PM	62.6	82.5	43.3
04:00 PM - 05:00 PM	66.7	85.8	51.2
05:00 PM - 06:00 PM	66.4	88.0	55.9
06:00 PM - 07:00 PM	64.7	82.6	55.7
07:00 PM - 08:00 PM	64.2	84.0	51.5
08:00 PM - 09:00 PM	63.6	89.5	52.3
09:00 PM - 10:00 PM	60.3	85.5	50.9
10:00 PM - 11:00 PM	59.7	87.0	52.4
11:00 PM - 12:00 AM	55.9	79.1	51.2
12:00 AM - 01:00 AM	53.1	77.3	49.3
01:00 AM - 02:00 AM	55.4	74.9	45.9
02:00 AM - 03:00 AM	55.3	79.9	45.9
03:00 AM - 04:00 AM	56.8	79.6	42.0
04:00 AM - 05:00 AM	79.4	82.1	42.1
05:00 AM - 06:00 AM	83.4	84.5	48.2
06:00 AM - 07:00 AM	67.9	84.5	54.4
07:00 AM - 08:00 AM	64.5	82.6	47.4
08:00 AM - 09:00 AM	61.0	79.4	44.9
09:00 AM - 10:00 AM	61.8	84.4	44.5
10:00 AM - 11:00 AM	62.9	84.4	45.1
11:00 AM - 12:00 PM	62.8	84.2	44.3
Leq Average 24 hrs. (dB(A))	62.8		
Lmax (dB(A))	89.5		47.4
L90 (dB(A))			
Ltn (dB(A))	68.0		
Standard (dB(A))	70	115	

Reference Method : ISO 9966-1 and 1996-2  
Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง ค่ามาตรฐานเสียงรบกวนในชุมชน พ.ศ. 2540  
2. ประกาศกระทรวงอุตสาหกรรม เรื่อง ค่ามาตรฐานเสียงรบกวนในโรงงาน พ.ศ. 2540

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

Technical Management

Tharitat.

Approved by

Supt S.

Tharitat Kulsirirong  
Scientist (4)

Support Salmeh  
Section Head

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## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : R/N(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 1

Sample Number	22147439-10
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณด้านหน้า หมู่ 2 อ.บ้านนาโพธิ์ 15 (N2) (GPS 47P 733675, 1434008)
Measurement Date	Dec 21 - Dec 22, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	61.7	81.1	43.7
01:00 PM - 02:00 PM	62.0	83.0	44.2
02:00 PM - 03:00 PM	63.3	86.3	41.1
03:00 PM - 04:00 PM	62.8	88.5	43.8
04:00 PM - 05:00 PM	65.4	84.7	49.3
05:00 PM - 06:00 PM	63.9	79.5	54.4
06:00 PM - 07:00 PM	64.3	84.3	50.8
07:00 PM - 08:00 PM	64.4	88.1	49.3
08:00 PM - 09:00 PM	61.2	81.9	48.2
09:00 PM - 10:00 PM	58.0	82.6	46.5
10:00 PM - 11:00 PM	58.8	86.4	45.8
11:00 PM - 12:00 AM	53.0	76.9	44.9
12:00 AM - 01:00 AM	59.7	92.8	45.4
01:00 AM - 02:00 AM	52.1	75.8	44.2
02:00 AM - 03:00 AM	53.7	81.4	43.9
03:00 AM - 04:00 AM	61.3	89.3	45.3
04:00 AM - 05:00 AM	57.2	77.7	48.4
05:00 AM - 06:00 AM	64.5	90.5	51.8
06:00 AM - 07:00 AM	67.7	83.9	50.5
07:00 AM - 08:00 AM	65.8	88.6	44.9
08:00 AM - 09:00 AM	61.4	81.4	43.4
09:00 AM - 10:00 AM	61.6	81.6	45.4
10:00 AM - 11:00 AM	63.4	86.9	48.1
11:00 AM - 12:00 PM	61.5	79.0	46.1
Leq Average 24 hrs. (dB(A))	62.6		
Lmax (dB(A))	92.8		45.4
L90 (dB(A))			
Ltn (dB(A))	68.3		
Standard (dB(A))	70	115	

Reference Method : ISO 9966-1 and 1996-2  
Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง ค่ามาตรฐานเสียงรบกวนในชุมชน พ.ศ. 2540  
2. ประกาศกระทรวงอุตสาหกรรม เรื่อง ค่ามาตรฐานเสียงรบกวนในโรงงาน พ.ศ. 2540

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

Technical Management

Tharitat.

Approved by

Supt S.

Tharitat Kulsirirong  
Scientist (4)

Support Salmeh  
Section Head

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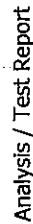
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TESTING  
No.0042

**Lot ID: 22147439**  
Date Received : Dec 27, 2022  
Date Reported : Jan 03, 2023  
Report Number: 2534445-1

Client: Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phor, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng

**Project Location :**

Page 1 of 1

Sample Number	Noise (Leq 24 hrs.)	Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
22147439-11	1/หน้าร้าน wj 2 ร้าน	12:00 PM - 01:00 PM	63.3	90.5	41.9
Parameter		01:00 PM - 02:00 PM	59.9	78.0	39.4
Location	Dec 22 - Dec 23, 2022	02:00 PM - 03:00 PM	61.7	86.2	39.9
Measurement Date		03:00 PM - 04:00 PM	62.5	85.1	40.8
Measurement by	Siwit Ruangsom	04:00 PM - 05:00 PM	66.3	86.6	51.3
Sound Level meter	Serial No. 472124	05:00 PM - 06:00 PM	65.1	85.6	53.0
		06:00 PM - 07:00 PM	65.4	86.7	54.4
		07:00 PM - 08:00 PM	64.1	91.1	52.5
		08:00 PM - 09:00 PM	60.5	83.1	50.0
		09:00 PM - 10:00 PM	59.8	82.4	50.3
		10:00 PM - 11:00 PM	56.7	80.0	48.6
		11:00 PM - 12:00 AM	57.0	81.7	46.3
		12:00 AM - 01:00 AM	53.7	78.2	45.2
		01:00 AM - 02:00 AM	52.9	77.5	44.2
		02:00 AM - 03:00 AM	51.4	75.0	43.2
		03:00 AM - 04:00 AM	53.6	75.0	42.2
		04:00 AM - 05:00 AM	57.0	77.4	43.1
		05:00 AM - 06:00 AM	64.3	82.7	49.0
		06:00 AM - 07:00 AM	68.1	84.8	55.0
		07:00 AM - 08:00 AM	65.3	88.9	50.2
		08:00 AM - 09:00 AM	62.2	85.0	42.0
		09:00 AM - 10:00 AM	64.2	89.8	44.3
		10:00 AM - 11:00 AM	63.9	88.2	42.9
		11:00 AM - 12:00 PM	63.2	84.0	42.4

EXPOSURE ASSESSMENT	
Leq Average 24 hrs. (dBA)	
Lnux (dBA)	62.8
Ln0 (dBA)	91.1
Ldn (dBA)	67.9
	44.3

Reference Method : ISO 1996-1 and 1996-2  
Standard : 1. ประเทศคณะกรรมการสิ่งแวดล้อมแห่งชาติ พ.ศ. 2548 เรื่องกำหนดมาตรฐานเสียงในชุมชน  
2. ประเทศกระทรวงอุตสาหกรรม เรื่องกำหนดวิธีดำเนินการทวน และสมัครใจที่จัดทำจากภาคประกอบกิจการ  
ตรา พ.ศ. 2548

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

## Technical Management

Tharita K.

**Thanita Kulsuriwong**  
Scientist (4)

**Approved by**

S. Johns

**Suport Salamteh**  
**Section Head**

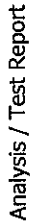
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**Client:** Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
**P/O :** RJN(2)-030/65

P/O : RJN(2)-030/65

Project Name : Pluaik Daeng

Project Location :

Page 1 of 1

Sample Number	22147439-12		
Parameter	Noise (Leq 24 hrs.)		
Location	หน้าพื้นที่ หมู่ 2 ตำบลหนอง 15 (N2) (GPS 47° 733075, 1434009)		
Measurement Date	Dec 23 - Dec 24, 2022		
Measurement by	สินิต รุ่งทอง		
Sound Level meter	Serial No. 472124		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	63.4	84.8	44.2
01:00 PM - 02:00 PM	61.7	84.3	40.5
02:00 PM - 03:00 PM	61.9	84.3	42.9
03:00 PM - 04:00 PM	65.1	90.9	43.7
04:00 PM - 05:00 PM	65.9	87.3	51.6
05:00 PM - 06:00 PM	64.4	83.4	50.8
06:00 PM - 07:00 PM	63.8	84.5	52.8
07:00 PM - 08:00 PM	63.6	86.7	50.5
08:00 PM - 09:00 PM	62.3	83.6	54.5
09:00 PM - 10:00 PM	60.0	81.5	53.8
10:00 PM - 11:00 PM	55.5	79.8	44.9
11:00 PM - 12:00 AM	57.0	81.3	44.4
12:00 AM - 01:00 AM	50.1	74.3	43.1
01:00 AM - 02:00 AM	50.8	74.1	43.3
02:00 AM - 03:00 AM	49.4	72.0	43.6
03:00 AM - 04:00 AM	47.9	65.3	43.1
04:00 AM - 05:00 AM	57.9	85.2	42.8
05:00 AM - 06:00 AM	62.9	85.4	48.6
06:00 AM - 07:00 AM	67.5	87.3	51.8
07:00 AM - 08:00 AM	64.7	84.1	47.3
08:00 AM - 09:00 AM	62.9	82.2	44.6
09:00 AM - 10:00 AM	62.8	85.4	43.7
10:00 AM - 11:00 AM	64.4	87.1	43.7
11:00 AM - 12:00 PM	64.5	85.0	50.2

11:00 AM - 12:00 PM	62.7
Leg Average 24 hrs. (dB(A))	

Leq Average 24 hrs. (dBA)	90.9	44.4
Lmax (dBA)		
L90 (dBA)		

$L_{50}$ (dB(A))	67.5
$L_{dn}$ (dB(A))	

Standards (A)

Reference Method : ISO 1996-1 and 1996-2

Standard : 1. ประกาศกระทรวงการคลังฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงกำหนด และระดับเสียงที่เกิดจากการทำงานของเครื่องจักร  
Reference Method : ISO1996-1 and 1996-2

154776 M. G. 2548

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

## Technical Management

Tharita K.

**Thanita Kulsuriwong**  
**Scientist (4)**

**Approved by**

S. Johns

**Supot Satamteh**  
**Section Head**

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8335-62/EMAIL



TESTING  
No.0042

Lot ID: 22147439

Date Received: Dec 27, 2022

Date Reported: Jan 03, 2023

Report Number: 253447-1

## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : R0N2-039/65

Project Name : Pluak Daeng

Project Location :

Page 1 of 1

Sample Number	22147439-13
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณหน้าโรงงาน 2 ข้างถนน 15 (N2) (GPS 47P 733675, 1434009)
Measurement Date	Dec 24 - Dec 25, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	63.5	83.3	47.5
01:00 PM - 02:00 PM	62.1	82.9	43.8
02:00 PM - 03:00 PM	62.3	85.3	43.1
03:00 PM - 04:00 PM	65.2	86.7	48.3
04:00 PM - 05:00 PM	65.5	81.8	51.4
05:00 PM - 06:00 PM	64.0	85.9	49.9
06:00 PM - 07:00 PM	63.3	85.3	51.1
07:00 PM - 08:00 PM	62.4	83.0	50.0
08:00 PM - 09:00 PM	61.8	86.8	47.9
09:00 PM - 10:00 PM	60.9	85.9	45.4
10:00 PM - 11:00 PM	58.2	78.2	43.7
11:00 PM - 12:00 AM	59.8	82.2	42.9
12:00 AM - 01:00 AM	56.2	81.8	42.2
01:00 AM - 02:00 AM	52.7	80.6	42.3
02:00 AM - 03:00 AM	54.0	78.6	41.4
03:00 AM - 04:00 AM	55.0	77.4	41.1
04:00 AM - 05:00 AM	54.4	76.7	41.9
05:00 AM - 06:00 AM	59.8	78.6	43.7
06:00 AM - 07:00 AM	63.9	84.0	47.2
07:00 AM - 08:00 AM	62.9	81.4	45.7
08:00 AM - 09:00 AM	63.3	82.7	49.5
09:00 AM - 10:00 AM	63.9	81.3	51.3
10:00 AM - 11:00 AM	62.6	82.4	45.2
11:00 AM - 12:00 PM	62.7	85.7	42.8
Leq Average 24 hrs. (dB(A))	62.0	86.8	45.2
Lmax (dB(A))			
L90 (dB(A))			
L10 (dB(A))	66.0		
Standard (dB(A))	70	115	

Reference Method : ISO 1996-1 and 1996-2  
Standard : 1. กรุงเทพมหานครและปริมณฑล ภูมิอากาศ 15 (พ.ศ. 2540) ค่าพิกัดเสียงระดับความดัง  
2. กรุงเทพมหานครและปริมณฑล ค่าพิกัดเสียงระดับความดังมาตรฐาน ระดับความดังเสียงจากโรงงานอุตสาหกรรม  
โดย พ.ร.บ. 2548

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

Technical Management

Tharitat.

Approved by

Supt. Salamat

Section Head

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S. Report\_Air Noise.pdf (11:08AM)



TESTING  
No.0042

Lot ID: 22147439

Date Received: Dec 27, 2022

Date Reported: Jan 03, 2023

Report Number: 253448-1

## Analysis / Test Report

Client: Rojana Industrial Park Rayong 2 Co., Ltd.

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

P/O : R0N2-039/65

Project Name : Pluak Daeng

Project Location :

Page 1 of 1

Sample Number	22147439-14
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณหน้าโรงงาน 2 ข้างถนน 15 (N2) (GPS 47P 733675, 1434009)
Measurement Date	Dec 25 - Dec 26, 2022
Measurement by	Sirwit Ruangsom
Sound Level meter	Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	62.3	87.5	43.6
01:00 PM - 02:00 PM	62.1	82.0	49.3
02:00 PM - 03:00 PM	66.2	88.5	57.9
03:00 PM - 04:00 PM	64.6	82.2	56.6
04:00 PM - 05:00 PM	64.7	85.0	51.2
05:00 PM - 06:00 PM	62.4	79.6	48.0
06:00 PM - 07:00 PM	61.6	82.6	47.2
07:00 PM - 08:00 PM	61.1	83.1	48.3
08:00 PM - 09:00 PM	57.9	79.8	45.1
09:00 PM - 10:00 PM	56.8	79.9	42.1
10:00 PM - 11:00 PM	58.4	90.0	41.2
11:00 PM - 12:00 AM	49.2	72.3	40.7
12:00 AM - 01:00 AM	50.7	75.4	40.7
01:00 AM - 02:00 AM	47.7	74.9	41.5
02:00 AM - 03:00 AM	51.5	77.4	40.7
03:00 AM - 04:00 AM	51.7	75.6	39.7
04:00 AM - 05:00 AM	56.8	84.2	38.9
05:00 AM - 06:00 AM	61.9	82.2	47.4
06:00 AM - 07:00 AM	66.9	86.1	54.5
07:00 AM - 08:00 AM	64.3	89.3	47.6
08:00 AM - 09:00 AM	63.1	83.6	47.5
09:00 AM - 10:00 AM	63.9	89.8	45.7
10:00 AM - 11:00 AM	64.7	85.4	47.0
11:00 AM - 12:00 PM	64.7	86.0	43.3
Leq Average 24 hrs. (dB(A))	62.2	90.0	
Lmax (dB(A))			
L90 (dB(A))			45.7
L10 (dB(A))	66.7		
Standard (dB(A))	70	115	

Reference Method : ISO 1996-1 and 1996-2  
Standard : 1. กรุงเทพมหานครและปริมณฑล ภูมิอากาศ 15 (พ.ศ. 2540) ค่าพิกัดเสียงระดับความดัง  
2. กรุงเทพมหานครและปริมณฑล ค่าพิกัดเสียงระดับความดังมาตรฐาน ระดับความดังเสียงจากโรงงานอุตสาหกรรม  
โดย พ.ร.บ. 2548

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

Technical Management

Tharitat.

Approved by

Supt. Salamat

Section Head

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S. Report\_Air Noise.pdf (11:08AM)



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Plak Daeng, Rayong Thailand 21140  
P/O : RUN(C)-030/65  
Project Name : Plak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534230-1

Page 1 of 3

Sample Number : 22147442-1  
Parameter : Noise Level (Leq 5 min)  
Location : จันทนาภิบาล (N1) (GPS 47P 734053, 143206)  
Measurement Date : Dec 19 - Dec 20, 2022  
Measurement by : Sirwit Ruangsom wutinnuan 7-323-9-9475  
Sound Level meter : Serial No. 00296518

Dec 19, 2022	Leq dB(A)	L90 dB(A)	Dec 19, 2022	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	65.5	46.8	02:40 PM - 02:45 PM	66.3	44.1
12:05 PM - 12:10 PM	69.6	48.6	02:45 PM - 02:50 PM	66.9	45.4
12:10 PM - 12:15 PM	66.6	46.1	02:50 PM - 02:55 PM	62.4	45.1
12:15 PM - 12:20 PM	66.0	45.9	02:55 PM - 03:00 PM	65.9	43.5
12:20 PM - 12:25 PM	63.8	45.9	03:00 PM - 03:05 PM	67.3	52.6
12:25 PM - 12:30 PM	65.9	45.6	03:05 PM - 03:10 PM	67.3	53.9
12:30 PM - 12:35 PM	65.6	50.8	03:10 PM - 03:15 PM	69.0	47.2
12:35 PM - 12:40 PM	67.2	45.4	03:15 PM - 03:20 PM	66.1	56.2
12:40 PM - 12:45 PM	61.1	45.4	03:20 PM - 03:25 PM	69.3	49.6
12:45 PM - 12:50 PM	63.3	45.6	03:25 PM - 03:30 PM	69.4	48.0
12:50 PM - 12:55 PM	62.6	44.7	03:30 PM - 03:35 PM	69.1	43.1
12:55 PM - 01:00 PM	60.2	46.2	03:35 PM - 03:40 PM	65.1	45.5
01:00 PM - 01:05 PM	66.6	46.1	03:40 PM - 03:45 PM	64.4	46.4
01:05 PM - 01:10 PM	65.4	43.8	03:45 PM - 03:50 PM	69.6	46.1
01:10 PM - 01:15 PM	62.3	43.7	03:50 PM - 03:55 PM	64.4	47.1
01:15 PM - 01:20 PM	62.8	42.3	03:55 PM - 04:00 PM	69.0	47.2
01:20 PM - 01:25 PM	64.2	43.9	04:00 PM - 04:05 PM	65.2	48.9
01:25 PM - 01:30 PM	64.9	52.8	04:05 PM - 04:10 PM	68.6	51.1
01:30 PM - 01:35 PM	61.3	41.3	04:10 PM - 04:15 PM	67.7	50.9
01:35 PM - 01:40 PM	65.2	43.7	04:15 PM - 04:20 PM	67.3	52.1
01:40 PM - 01:45 PM	63.2	43.2	04:20 PM - 04:25 PM	67.9	50.3
01:45 PM - 01:50 PM	63.2	44.6	04:25 PM - 04:30 PM	68.3	52.8
01:50 PM - 01:55 PM	62.6	45.1	04:30 PM - 04:35 PM	67.7	50.9
01:55 PM - 02:00 PM	64.0	45.2	04:35 PM - 04:40 PM	69.9	54.1
02:00 PM - 02:05 PM	63.5	44.0	04:40 PM - 04:45 PM	69.3	51.6
02:05 PM - 02:10 PM	67.4	43.6	04:45 PM - 04:50 PM	68.0	49.2
02:10 PM - 02:15 PM	65.1	45.5	04:50 PM - 04:55 PM	67.3	50.4
02:15 PM - 02:20 PM	63.1	42.9	04:55 PM - 05:00 PM	67.2	52.7
02:20 PM - 02:25 PM	61.9	41.6	05:00 PM - 05:05 PM	69.3	49.6
02:25 PM - 02:30 PM	64.5	48.1	05:05 PM - 05:10 PM	67.2	48.9
02:30 PM - 02:35 PM	67.1	43.1	05:10 PM - 05:15 PM	67.0	47.3
02:35 PM - 02:40 PM	64.2	43.7	05:15 PM - 05:20 PM	68.9	48.5

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Approved by

Sarayu Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Plak Daeng, Rayong Thailand 21140  
P/O : RUN(C)-030/65  
Project Name : Plak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534230-1

Page 2 of 3

Sample Number : 22147442-1  
Parameter : Noise Level (Leq 5 min)  
Location : จันทนาภิบาล (N1) (GPS 47P 734053, 143206)  
Measurement Date : Dec 19 - Dec 20, 2022  
Measurement by : Sirwit Ruangsom wutinnuan 7-323-9-9475  
Sound Level meter : Serial No. 00296518

Dec 19, 2022	Leq dB(A)	L90 dB(A)	Dec 19 - Dec 20, 2022	Leq dB(A)	L90 dB(A)	Dec 20, 2022	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	63.7	48.0	10:40 PM - 10:45 PM	57.4	43.2	01:20 AM - 01:25 AM	42.1	39.7
08:05 PM - 08:10 PM	62.2	46.3	10:45 PM - 10:50 PM	51.1	42.6	01:25 AM - 01:30 AM	41.1	39.4
08:10 PM - 08:15 PM	64.4	47.2	10:50 PM - 10:55 PM	51.8	42.3	01:30 AM - 01:35 AM	54.2	40.3
08:15 PM - 08:20 PM	61.6	45.5	10:55 PM - 11:00 PM	58.1	42.3	01:35 AM - 01:40 AM	41.5	39.3
08:20 PM - 08:25 PM	62.7	45.6	11:00 PM - 11:05 PM	43.9	41.8	01:40 AM - 01:45 AM	41.2	39.0
08:25 PM - 08:30 PM	63.0	45.0	11:05 PM - 11:10 PM	61.7	42.4	01:45 AM - 01:50 AM	59.6	38.8
08:30 PM - 08:35 PM	61.2	46.0	11:10 PM - 11:15 PM	61.7	42.4	01:50 AM - 01:55 AM	51.1	38.9
08:35 PM - 08:40 PM	61.4	41.3	11:15 PM - 11:20 PM	56.0	41.8	01:55 AM - 02:00 AM	58.2	39.2
08:40 PM - 08:45 PM	61.5	47.6	11:20 PM - 11:25 PM	57.3	41.8	02:00 AM - 02:05 AM	47.1	38.4
08:45 PM - 08:50 PM	62.1	45.1	11:25 PM - 11:30 PM	57.2	41.0	02:05 AM - 02:10 AM	42.0	38.7
08:50 PM - 08:55 PM	65.0	45.2	11:30 PM - 11:35 PM	56.6	41.3	02:10 AM - 02:15 AM	53.6	39.3
08:55 PM - 09:00 PM	59.2	46.1	11:35 PM - 11:40 PM	50.8	41.5	02:15 AM - 02:20 AM	50.1	38.8
09:00 PM - 09:05 PM	64.0	45.1	11:40 PM - 11:45 PM	48.8	41.1	02:20 AM - 02:25 AM	48.6	38.8
09:05 PM - 09:10 PM	60.1	45.0	11:45 PM - 11:50 PM	53.7	41.2	02:25 AM - 02:30 AM	57.5	39.5
09:10 PM - 09:15 PM	63.2	45.1	11:50 PM - 11:55 PM	43.2	40.6	02:30 AM - 02:35 AM	55.7	39.1
09:15 PM - 09:20 PM	60.5	44.8	11:55 PM - 12:00 AM	42.8	40.6	02:35 AM - 02:40 AM	41.8	39.1
09:20 PM - 09:25 PM	62.4	45.0	12:00 AM - 12:05 AM	42.9	40.2	02:40 AM - 02:45 AM	57.5	39.6
09:25 PM - 09:30 PM	64.6	43.5	12:05 AM - 12:10 AM	42.9	40.2	02:45 AM - 02:50 AM	41.5	39.5
09:30 PM - 09:35 PM	49.7	42.7	12:10 AM - 12:15 AM	49.2	39.5	02:50 AM - 02:55 AM	40.9	39.2
09:35 PM - 09:40 PM	61.5	42.6	12:15 AM - 12:20 AM	52.1	39.1	02:55 AM - 03:00 AM	51.5	40.2
09:40 PM - 09:45 PM	61.2	42.6	12:20 AM - 12:25 AM	52.3	38.8	03:00 AM - 03:05 AM	56.0	40.0
09:45 PM - 09:50 PM	57.1	43.4	12:25 AM - 12:30 AM	40.4	39.3	03:05 AM - 03:10 AM	56.5	40.4
09:50 PM - 09:55 PM	57.4	43.0	12:30 AM - 12:35 AM	40.8	39.5	03:10 AM - 03:15 AM	47.9	38.6
09:55 PM - 10:00 PM	58.6	42.3	12:35 AM - 12:40 AM	42.1	39.7	03:15 AM - 03:20 AM	57.8	38.8
10:00 PM - 10:05 PM	62.8	42.3	12:40 AM - 12:45 AM	46.2	39.4	03:20 AM - 03:25 AM	51.6	39.5
10:05 PM - 10:10 PM	56.0	42.1	12:45 AM - 12:50 AM	41.6	39.3	03:25 AM - 03:30 AM	52.8	39.0
10:10 PM - 10:15 PM	43.7	41.6	12:50 AM - 12:55 AM	58.9	39.1	03:30 AM - 03:35 AM	42.3	38.2
10:15 PM - 10:20 PM	60.3	42.0	12:55 AM - 01:00 AM	44.0	39.9	03:35 AM - 03:40 AM	51.7	38.9
10:20 PM - 10:25 PM	54.4	42.3	01:00 AM - 01:05 AM	42.3	39.5	03:40 AM - 03:45 AM	55.2	38.9
10:25 PM - 10:30 PM	48.8	43.6	01:05 AM - 01:10 AM	41.9	39.6	03:45 AM - 03:50 AM	61.3	39.1
10:30 PM - 10:35 PM	58.0	42.4	01:10 AM - 01:15 AM	50.6	40.3	03:50 AM - 03:55 AM	61.9	41.6
10:35 PM - 10:40 PM	50.4	42.5	01:15 AM - 01:20 AM	54.6	40.3	03:55 AM - 04:00 AM	69.2	39.6

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Approved by

Sarayu Jitranont  
Assistant General Manager





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/85  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22447442  
Date Received :Dec 27, 2022  
Date Reported :Jan 04, 2023  
Report Number : 2534231-1

Page 1 of 3

Sample Number		22147432-2									
Parameter		Noise Level (Leq 5 min)									
Location		Universitiandau (N1) (GPS 47P 70453, 1432206)									
Measurement Date		Dec 20 - Dec 21, 2022									
Measurement by		Sirwit Ruingsom Intidunwari 1-323-9475									
Sound Level meter		Serial No. 00295618									
Dec 20, 2022	Time	Leq	L90	Time	L90	Leq	L90	Time	Dec 20, 2022	Leq	L90
		dB(A)	dB(A)								
12:00 PM - 12:05 PM	65.9	45.0	02:40 PM - 02:45 PM	63.3	42.8	05:20 PM - 05:25 PM	68.2	52.7			
12:05 PM - 12:10 PM	65.5	43.2	02:45 PM - 02:50 PM	65.0	42.4	05:25 PM - 05:30 PM	66.7	42.2			
12:10 PM - 12:15 PM	65.2	43.7	02:50 PM - 02:55 PM	66.2	41.2	05:30 PM - 05:35 PM	66.3	52.5			
12:15 PM - 12:20 PM	65.3	43.2	02:55 PM - 03:00 PM	65.2	42.5	05:35 PM - 05:40 PM	66.3	52.3			
12:20 PM - 12:25 PM	64.4	46.3	03:00 PM - 03:05 PM	62.5	39.4	05:40 PM - 05:45 PM	67.1	52.5			
12:25 PM - 12:30 PM	64.0	41.7	03:05 PM - 03:10 PM	66.9	43.6	05:45 PM - 05:50 PM	67.9	45.6			
12:30 PM - 12:35 PM	66.2	41.3	03:10 PM - 03:15 PM	64.9	43.4	05:50 PM - 05:55 PM	66.1	53.8			
12:35 PM - 12:40 PM	65.4	42.2	03:15 PM - 03:20 PM	67.3	47.5	05:55 PM - 06:00 PM	63.9	52.5			
12:40 PM - 12:45 PM	64.2	40.3	03:20 PM - 03:25 PM	64.0	46.7	06:00 PM - 06:05 PM	65.1	53.4			
12:45 PM - 12:50 PM	63.4	43.7	03:25 PM - 03:30 PM	64.5	47.3	06:05 PM - 06:10 PM	66.3	53.6			
12:50 PM - 12:55 PM	67.8	41.0	03:30 PM - 03:35 PM	64.2	43.4	06:10 PM - 06:15 PM	66.6	53.6			
12:55 PM - 01:00 PM	68.2	43.5	03:35 PM - 03:40 PM	62.4	43.5	06:15 PM - 06:20 PM	67.8	53.5			
01:00 PM - 01:05 PM	69.0	43.1	03:40 PM - 03:45 PM	62.4	42.4	06:20 PM - 06:25 PM	66.2	53.5			
01:05 PM - 01:10 PM	68.3	42.1	03:45 PM - 03:50 PM	64.5	46.9	06:25 PM - 06:30 PM	65.1	52.5			
01:10 PM - 01:15 PM	62.6	43.0	03:50 PM - 03:55 PM	67.8	48.6	06:30 PM - 06:35 PM	66.0	52.3			
01:15 PM - 01:20 PM	62.4	42.1	03:55 PM - 04:00 PM	66.9	44.7	06:35 PM - 06:40 PM	67.8	53.7			
01:20 PM - 01:25 PM	64.7	42.7	04:00 PM - 04:05 PM	69.6	49.1	06:40 PM - 06:45 PM	69.3	52.6			
01:25 PM - 01:30 PM	51.6	42.8	04:05 PM - 04:10 PM	69.9	46.9	06:45 PM - 06:50 PM	66.1	51.2			
01:30 PM - 01:35 PM	65.8	42.5	04:10 PM - 04:15 PM	65.7	49.0	06:50 PM - 06:55 PM	65.9	50.9			
01:35 PM - 01:40 PM	59.6	42.2	04:15 PM - 04:20 PM	67.4	51.5	06:55 PM - 07:00 PM	65.1	49.4			
01:40 PM - 01:45 PM	60.4	40.8	04:20 PM - 04:25 PM	66.9	47.0	07:00 PM - 07:05 PM	62.8	47.9			
01:45 PM - 01:50 PM	59.5	40.1	04:25 PM - 04:30 PM	67.1	45.7	07:05 PM - 07:10 PM	63.5	45.4			
01:50 PM - 01:55 PM	63.1	40.2	04:30 PM - 04:35 PM	65.9	49.3	07:10 PM - 07:15 PM	63.9	48.8			
01:55 PM - 02:00 PM	62.5	41.9	04:35 PM - 04:40 PM	67.5	51.1	07:15 PM - 07:20 PM	66.2	52.6			
02:00 PM - 02:05 PM	63.5	42.3	04:40 PM - 04:45 PM	68.3	53.1	07:20 PM - 07:25 PM	66.6	51.6			
02:05 PM - 02:10 PM	66.9	41.6	04:45 PM - 04:50 PM	68.7	51.6	07:25 PM - 07:30 PM	65.6	51.0			
02:10 PM - 02:15 PM	61.4	38.4	04:50 PM - 04:55 PM	69.9	49.2	07:30 PM - 07:35 PM	66.8	50.7			
02:15 PM - 02:20 PM	64.3	42.3	04:55 PM - 05:00 PM	67.0	48.6	07:35 PM - 07:40 PM	64.9	51.2			
02:20 PM - 02:25 PM	62.8	41.4	05:00 PM - 05:05 PM	69.4	50.2	07:40 PM - 07:45 PM	69.2	50.8			
02:25 PM - 02:30 PM	59.6	40.6	05:05 PM - 05:10 PM	67.8	52.2	07:45 PM - 07:50 PM	63.0	50.2			
02:30 PM - 02:35 PM	65.1	40.1	05:10 PM - 05:15 PM	67.4	54.5	07:50 PM - 07:55 PM	62.6	49.7			
02:35 PM - 02:40 PM	65.4	42.2	05:15 PM - 05:20 PM	67.0	53.2	07:55 PM - 08:00 PM	66.0	50.0			

The above results are valid only for the undistilled sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. AL5 Laboratory Group (Thailand)

**Approved by**

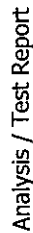
**Sarayuth Jittranont**  
Assistant General Manager

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

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**Thompson Field #1111**

## RIGHT SOLUTIONS MEET PARTNER



Page 2 of 3

433

Parameter	Noise Level (Leq 5 mlp)
Sample Number	

Location บ้านวังตลาดเหนือ (NI) (GPS 47P 734053, 1432206)

Measurement by  
Siriwit Ruangsom โทรินหมายเลข ๖-323-๖-9475

2007	100	Dec 20 - Dec 21
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**Sarayuth Jitranont**  
Assistant General Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khweng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197  
ALS MEDICATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

### Experimental design

**ИСТОРИЯ**



444

Parameter	Noise Level (Leq 5 min)
Background noise	60 dB(A)
Machine noise	78 dB(A)
Combined noise	80 dB(A)

Location บ้านวังศาลพลม (N1) (GPS 47P 734053, 1432206)

Measurement by  
Sirwit Ruangsom วิทยาลัย 3-323-9-34/5

Dec 21, 2022	Leq	L90
--------------	-----	-----

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**Sarayuth Jittranont**  
**Assistant General Manager**

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khyaweng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand I PHONE +66 0 2760 3000 I FAX +66 0 2760 3197  
 A/E LABORATORY CONSULTANTS CO. LTD. An A/E Limited Company

**SECRET - [REDACTED]**

110378015157.MAA



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RUM(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534232-1

Page 1 of 3

Sample Number	22147442-3	Leq	L90	Dec 21, 2022	Leq	L90
Parameter	Noise Level (Leq 5 min)	dB(A)	dB(A)	Time	dB(A)	dB(A)
Location	Thurafanvian (N1) (GPS 47P 734053, 1432206)					
Measurement Date	Dec 21 - Dec 22, 2022					
Measurement by	Sirwit Ruangsom vatthanuan 3-323-a-9475					
Sound Level meter	Serial No. 00296518					
Dec 21, 2022	Dec 21, 2022	Leq	L90	Dec 21, 2022	Leq	L90
Time	Time	dB(A)	dB(A)	Time	dB(A)	dB(A)
12:00 PM - 12:05 PM	02:40 PM - 02:45 PM	64.4	44.5	05:20 PM - 05:25 PM	65.4	47.4
12:05 PM - 12:10 PM	02:45 PM - 02:50 PM	64.0	45.5	05:25 PM - 05:30 PM	65.5	52.9
12:10 PM - 12:15 PM	02:50 PM - 02:55 PM	64.8	45.7	05:30 PM - 05:35 PM	66.3	49.9
12:15 PM - 12:20 PM	02:55 PM - 03:00 PM	63.6	43.6	05:35 PM - 05:40 PM	65.9	50.6
12:20 PM - 12:25 PM	03:00 PM - 03:05 PM	62.8	43.6	05:40 PM - 05:45 PM	65.1	50.6
12:25 PM - 12:30 PM	03:05 PM - 03:10 PM	63.2	41.6	05:45 PM - 05:50 PM	64.6	53.5
12:30 PM - 12:35 PM	03:10 PM - 03:15 PM	63.1	42.3	05:50 PM - 05:55 PM	67.0	51.4
12:35 PM - 12:40 PM	03:15 PM - 03:20 PM	66.4	41.2	05:55 PM - 06:00 PM	66.0	51.7
12:40 PM - 12:45 PM	03:20 PM - 03:25 PM	64.3	43.2	06:00 PM - 06:05 PM	67.3	51.5
12:45 PM - 12:50 PM	03:25 PM - 03:30 PM	63.2	42.5	06:05 PM - 06:10 PM	65.3	50.4
12:50 PM - 12:55 PM	03:30 PM - 03:35 PM	68.0	45.7	06:10 PM - 06:15 PM	65.8	49.9
12:55 PM - 01:00 PM	03:35 PM - 03:40 PM	61.8	45.0	06:15 PM - 06:20 PM	65.6	51.9
01:00 PM - 01:05 PM	03:40 PM - 03:45 PM	61.7	45.4	06:20 PM - 06:25 PM	68.6	50.6
01:05 PM - 01:10 PM	03:45 PM - 03:50 PM	64.6	44.2	06:25 PM - 06:30 PM	65.4	50.3
01:10 PM - 01:15 PM	03:50 PM - 03:55 PM	62.3	55.9	06:30 PM - 06:35 PM	67.0	52.1
01:15 PM - 01:20 PM	03:55 PM - 04:00 PM	61.5	46.3	06:35 PM - 06:40 PM	65.3	52.1
01:20 PM - 01:25 PM	04:00 PM - 04:05 PM	62.4	44.3	06:40 PM - 06:45 PM	65.4	50.2
01:25 PM - 01:30 PM	04:05 PM - 04:10 PM	61.6	43.8	06:45 PM - 06:50 PM	65.3	43.9
01:30 PM - 01:35 PM	04:10 PM - 04:15 PM	62.9	45.8	06:50 PM - 06:55 PM	65.2	49.2
01:35 PM - 01:40 PM	04:15 PM - 04:20 PM	68.2	54.4	06:55 PM - 07:00 PM	66.2	49.7
01:40 PM - 01:45 PM	04:20 PM - 04:25 PM	66.5	51.2	07:00 PM - 07:05 PM	66.3	48.7
01:45 PM - 01:50 PM	04:25 PM - 04:30 PM	64.9	42.8	07:05 PM - 07:10 PM	62.0	48.0
01:50 PM - 01:55 PM	04:30 PM - 04:35 PM	63.7	43.6	07:10 PM - 07:15 PM	67.0	49.1
01:55 PM - 02:00 PM	04:35 PM - 04:40 PM	62.9	41.9	07:15 PM - 07:20 PM	67.5	54.2
02:00 PM - 02:05 PM	04:40 PM - 04:45 PM	66.3	41.0	07:20 PM - 07:25 PM	67.1	49.4
02:05 PM - 02:10 PM	04:45 PM - 04:50 PM	62.5	41.3	07:25 PM - 07:30 PM	65.9	48.6
02:10 PM - 02:15 PM	04:50 PM - 04:55 PM	69.4	50.8	07:30 PM - 07:35 PM	65.3	43.9
02:15 PM - 02:20 PM	04:55 PM - 05:00 PM	65.9	48.0	07:35 PM - 07:40 PM	65.3	48.4
02:20 PM - 02:25 PM	05:00 PM - 05:05 PM	68.0	52.4	07:40 PM - 07:45 PM	65.0	47.4
02:25 PM - 02:30 PM	05:05 PM - 05:10 PM	64.7	49.6	07:45 PM - 07:50 PM	63.2	46.6
02:30 PM - 02:35 PM	05:10 PM - 05:15 PM	66.5	50.7	07:50 PM - 07:55 PM	61.8	46.3
02:35 PM - 02:40 PM	05:15 PM - 05:20 PM	70.0	43.6	07:55 PM - 08:00 PM	62.8	41.4

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Approved by  
Sanyuth Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RUM(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534232-1

Page 2 of 3

Sample Number	22147442-3	Leq	L90	Dec 21 - Dec 22, 2022	Leq	L90
Parameter	Noise Level (Leq 5 min)	dB(A)	dB(A)	Time	dB(A)	dB(A)
Location	Thurafanvian (N1) (GPS 47P 734053, 1432206)					
Measurement Date	Dec 21 - Dec 22, 2022					
Measurement by	Sirwit Ruangsom vatthanuan 3-323-a-9475					
Sound Level meter	Serial No. 00296518					
Dec 21, 2022	Dec 21, 2022	Leq	L90	Dec 21 - Dec 22, 2022	Leq	L90
Time	Time	dB(A)	dB(A)	Time	dB(A)	dB(A)
08:00 PM - 08:05 PM	10:40 PM - 10:45 PM	67.6	49.9	10:40 PM - 10:45 PM	54.1	41.9
08:05 PM - 08:10 PM	10:45 PM - 10:50 PM	65.3	46.9	10:45 PM - 10:50 PM	61.8	42.0
08:10 PM - 08:15 PM	10:50 PM - 10:55 PM	61.7	47.9	10:50 PM - 10:55 PM	55.0	41.3
08:15 PM - 08:20 PM	10:55 PM - 11:00 PM	59.8	46.8	10:55 PM - 11:00 PM	56.4	41.1
08:20 PM - 08:25 PM	11:00 PM - 11:05 PM	60.9	46.9	11:00 PM - 11:05 PM	48.1	40.6
08:25 PM - 08:30 PM	11:05 PM - 11:10 PM	63.5	46.7	11:05 PM - 11:10 PM	43.7	41.5
08:30 PM - 08:35 PM	11:10 PM - 11:15 PM	62.1	46.0	11:10 PM - 11:15 PM	43.6	41.2
08:35 PM - 08:40 PM	11:15 PM - 11:20 PM	63.8	46.4	11:15 PM - 11:20 PM	55.5	40.9
08:40 PM - 08:45 PM	11:20 PM - 11:25 PM	59.8	44.8	11:20 PM - 11:25 PM	60.8	40.7
08:45 PM - 08:50 PM	11:25 PM - 11:30 PM	61.1	45.7	11:25 PM - 11:30 PM	41.0	39.7
08:50 PM - 08:55 PM	11:30 PM - 11:35 PM	61.1	45.2	11:30 PM - 11:35 PM	57.0	40.4
08:55 PM - 09:00 PM	11:35 PM - 11:40 PM	63.0	44.9	11:35 PM - 11:40 PM	55.6	40.3
09:00 PM - 09:05 PM	11:40 PM - 11:45 PM	59.6	45.3	11:40 PM - 11:45 PM	41.7	39.9
09:05 PM - 09:10 PM	11:45 PM - 11:50 PM	59.7	44.2	11:45 PM - 11:50 PM	53.7	40.1
09:10 PM - 09:15 PM	11:50 PM - 11:55 PM	61.4	44.2	11:50 PM - 11:55 PM	41.0	39.7
09:15 PM - 09:20 PM	11:55 PM - 12:00 PM	61.7	44.7	11:55 PM - 12:00 PM	58.8	40.8
09:20 PM - 09:25 PM	12:00 PM - 12:05 PM	62.0	44.6	12:00 AM - 12:05 AM	54.3	40.4
09:25 PM - 09:30 PM	12:05 PM - 12:10 PM	56.5	44.0	12:05 AM - 12:10 AM	52.4	40.5
09:30 PM - 09:35 PM	12:10 AM - 12:15 AM	61.1	43.9	12:10 AM - 12:15 AM	54.8	41.3
09:35 PM - 09:40 PM	12:15 AM - 12:20 AM	54.2	43.0	12:15 AM - 12:20 AM	48.5	40.6
09:40 PM - 09:45 PM	12:20 AM - 12:25 AM	56.6	43.4	12:20 AM - 12:25 AM	53.7	41.2
09:45 PM - 09:50 PM	12:25 AM - 12:30 AM	54.6	42.3	12:25 AM - 12:30 AM	47.5	40.9
09:50 PM - 09:55 PM	12:30 AM - 12:35 AM	57.3	43.1	12:30 AM - 12:35 AM	43.4	40.7
09:55 PM - 10:00 PM	12:35 AM - 12:40 AM	58.0	43.2	12:35 AM - 12:40 AM	50.7	39.9
10:00 PM - 10:05 PM	12:40 AM - 12:45 AM	47.2	43.2	12:40 AM - 12:45 AM	41.2	40.2
10:05 PM - 10:10 PM	12:45 AM - 12:50 AM	62.8	44.5	12:45 AM - 12:50 AM	47.7	41.0
10:10 PM - 10:15 PM	12:50 AM - 12:55 AM	56.5	43.6	12:50 AM - 12:55 AM	63.0	41.1
10:15 PM - 10:20 PM	12:55 AM - 01:00 AM	57.2	42.6	12:55 AM - 01:00 AM	46.1	43.5
10:20 PM - 10:25 PM	01:00 AM - 01:05 AM	59.4	42.6	01:00 AM - 01:05 AM	47.8	40.5
10:25 PM - 10:30 PM	01:05 AM - 01:10 PM	60.5	42.7	01:05 AM - 01:10 AM	46.3	45.9
10:30 PM - 10:35 PM	01:10 AM - 01:15 AM	46.2	42.3	01:10 AM - 01:15 AM	48.1	46.4
10:35 PM - 10:40 PM	01:15 AM - 01:20 AM	64.8	43.2	01:15 AM - 01:20 AM	47.0	46.4

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Approved by  
Sanyuth Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RM(2)030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534233-1

Page 3 of 3

Sample Number : 22147442-3  
Parameter : Noise Level (Leq 5 min)  
Location : Thuananai (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 21 - Dec 22, 2022  
Measurement by : Siriwit Ruangsorn  
Sound Level meter : Serial No. 00296518

Dec 22, 2022	Leq dB(A)	L90 dB(A)	Dec 22, 2022	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	54.2	46.2	09:20 AM - 09:25 AM	59.6	43.9
04:05 AM - 04:10 AM	56.7	46.2	09:25 AM - 09:30 AM	63.3	42.7
04:10 AM - 04:15 AM	51.9	46.1	09:30 AM - 09:35 AM	67.2	44.7
04:15 AM - 04:20 AM	58.8	45.8	09:35 AM - 09:40 AM	69.6	44.0
04:20 AM - 04:25 AM	62.7	45.6	09:40 AM - 09:45 AM	63.8	45.4
04:25 AM - 04:30 AM	55.6	45.6	09:45 AM - 09:50 AM	60.6	42.9
04:30 AM - 04:35 AM	59.6	46.0	09:50 AM - 09:55 AM	63.5	42.9
04:35 AM - 04:40 AM	57.4	45.5	09:55 AM - 10:00 AM	68.9	44.2
04:40 AM - 04:45 AM	63.4	46.7	10:00 AM - 10:05 AM	64.6	43.5
04:45 AM - 04:50 AM	60.8	45.5	10:05 AM - 10:10 AM	65.0	41.4
04:50 AM - 04:55 AM	61.3	45.7	10:10 AM - 10:15 AM	66.6	43.9
04:55 AM - 05:00 AM	59.4	45.5	10:15 AM - 10:20 AM	59.9	42.9
05:00 AM - 05:05 AM	59.0	41.6	10:20 AM - 10:25 AM	60.1	43.2
05:05 AM - 05:10 AM	62.5	42.5	10:25 AM - 10:30 AM	64.1	49.7
05:10 AM - 05:15 AM	63.6	47.3	10:30 AM - 10:35 AM	55.5	43.5
05:15 AM - 05:20 AM	64.0	45.1	10:35 AM - 10:40 AM	55.2	44.0
05:20 AM - 05:25 AM	67.5	49.7	10:40 AM - 10:45 AM	68.8	45.5
05:25 AM - 05:30 AM	65.2	46.3	10:45 AM - 10:50 AM	65.8	42.6
05:30 AM - 05:35 AM	65.2	49.4	10:50 AM - 10:55 AM	62.5	44.3
05:35 AM - 05:40 AM	66.7	49.6	10:55 AM - 11:00 AM	66.7	47.7
05:40 AM - 05:45 AM	68.9	51.9	11:00 AM - 11:05 AM	64.3	43.8
05:45 AM - 05:50 AM	69.4	50.9	11:05 AM - 11:10 AM	65.8	44.2
05:50 AM - 05:55 AM	69.6	55.4	11:10 AM - 11:15 AM	66.6	44.9
05:55 AM - 06:00 AM	69.2	55.4	11:15 AM - 11:20 AM	63.0	50.6
06:00 AM - 06:05 AM	69.0	51.6	11:20 AM - 11:25 AM	60.8	48.7
06:05 AM - 06:10 AM	68.6	54.5	11:25 AM - 11:30 AM	65.5	52.6
06:10 AM - 06:15 AM	69.8	54.1	11:30 AM - 11:35 AM	63.3	41.6
06:15 AM - 06:20 AM	67.2	53.8	11:35 AM - 11:40 AM	60.6	40.9
06:20 AM - 06:25 AM	70.0	55.8	11:40 AM - 11:45 AM	62.0	42.4
06:25 AM - 06:30 AM	69.4	55.4	11:45 AM - 11:50 AM	64.4	41.5
06:30 AM - 06:35 AM	69.7	57.1	11:50 AM - 11:55 AM	63.9	41.9
06:35 AM - 06:40 AM	66.4	48.5	11:55 AM - 12:00 PM	61.5	41.2

The above results are valid only for the measurement period as indicated in the report. The results are not to be used for any other purpose without the written consent of the Laboratory. A.T. Laboratory Group (Thailand) Co., Ltd. does not recommend the use of this report for any other purpose.

Approved by

Saranyuth Jitramont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Pluak Daeng, Rayong Thailand 21140  
P/O : RM(2)030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534233-1

Page 1 of 3

Sample Number : 22147442-4  
Parameter : Noise Level (Leq 5 min)  
Location : Thuananai (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 22 - Dec 23, 2022  
Measurement by : Siriwit Ruangsorn  
Sound Level meter : Serial No. 00296518

Dec 22, 2022	Leq dB(A)	L90 dB(A)	Dec 22, 2022	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	62.2	38.8	02:40 PM - 02:45 PM	58.8	38.9
12:05 PM - 12:10 PM	64.4	49.6	02:45 PM - 02:50 PM	60.5	40.4
12:10 PM - 12:15 PM	68.0	42.8	02:50 PM - 02:55 PM	68.8	41.9
12:15 PM - 12:20 PM	66.9	41.9	02:55 PM - 03:00 PM	63.5	40.6
12:20 PM - 12:25 PM	62.0	42.2	03:00 PM - 03:05 PM	64.6	42.3
12:25 PM - 12:30 PM	64.5	42.5	03:05 PM - 03:10 PM	66.5	42.0
12:30 PM - 12:35 PM	66.8	43.3	03:10 PM - 03:15 PM	67.3	41.3
12:35 PM - 12:40 PM	62.6	38.7	03:15 PM - 03:20 PM	62.8	41.5
12:40 PM - 12:45 PM	61.2	39.6	03:20 PM - 03:25 PM	63.4	41.8
12:45 PM - 12:50 PM	62.1	40.0	03:25 PM - 03:30 PM	62.7	41.6
12:50 PM - 12:55 PM	61.1	40.3	03:30 PM - 03:35 PM	64.8	43.7
12:55 PM - 01:00 PM	62.5	38.9	03:35 PM - 03:40 PM	60.8	41.9
01:00 PM - 01:05 PM	67.4	38.3	03:40 PM - 03:45 PM	63.5	42.9
01:05 PM - 01:10 PM	62.9	40.7	03:45 PM - 03:50 PM	63.5	44.3
01:10 PM - 01:15 PM	61.7	42.8	03:50 PM - 03:55 PM	67.8	41.9
01:15 PM - 01:20 PM	63.4	42.6	03:55 PM - 04:00 PM	66.3	43.7
01:20 PM - 01:25 PM	61.4	40.5	04:00 PM - 04:05 PM	68.4	42.6
01:25 PM - 01:30 PM	60.1	37.6	04:05 PM - 04:10 PM	66.5	51.9
01:30 PM - 01:35 PM	59.6	37.6	04:10 PM - 04:15 PM	68.3	51.6
01:35 PM - 01:40 PM	63.3	41.3	04:15 PM - 04:20 PM	66.6	53.2
01:40 PM - 01:45 PM	60.3	39.0	04:20 PM - 04:25 PM	68.4	42.6
01:45 PM - 01:50 PM	65.3	41.8	04:25 PM - 04:30 PM	68.0	49.1
01:50 PM - 01:55 PM	64.5	39.3	04:30 PM - 04:35 PM	68.9	55.5
01:55 PM - 02:00 PM	63.4	39.4	04:35 PM - 04:40 PM	69.5	51.3
02:00 PM - 02:05 PM	60.7	40.1	04:40 PM - 04:45 PM	69.9	55.5
02:05 PM - 02:10 PM	63.4	38.9	04:45 PM - 04:50 PM	69.4	53.1
02:10 PM - 02:15 PM	61.6	39.5	04:50 PM - 04:55 PM	68.3	51.3
02:15 PM - 02:20 PM	58.9	42.6	04:55 PM - 05:00 PM	68.7	48.5
02:20 PM - 02:25 PM	65.5	42.3	05:00 PM - 05:05 PM	67.0	48.2
02:25 PM - 02:30 PM	65.3	40.7	05:05 PM - 05:10 PM	66.4	53.5
02:30 PM - 02:35 PM	64.6	40.4	05:10 PM - 05:15 PM	69.8	50.2
02:35 PM - 02:40 PM	61.3	38.4	05:15 PM - 05:20 PM	68.9	52.8

The above results are valid only for the measurement period as indicated in the report. The results are not to be used for any other purpose without the written consent of the Laboratory. A.T. Laboratory Group (Thailand) Co., Ltd. does not recommend the use of this report for any other purpose.

Approved by

Saranyuth Jitramont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534233-1

Page 2 of 3

Sample Number : 22147442-4  
Parameter : Noise Level (Leq 5 min)  
Location : จันทราภิรมย์ (N1) (GPS 479 734053, 1432206)  
Measurement Date : Dec 22 - Dec 23, 2022  
Measurement by : Siriwit Ruangsom vittanunauw 7-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 22, 2022	Leq dB(A)	L90 dB(A)	Dec 22 - Dec 23, 2022 Time	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	61.1	50.6	10:40 PM - 10:45 PM	51.7	40.9
08:05 PM - 08:10 PM	67.0	48.4	10:45 PM - 10:50 PM	48.7	41.0
08:10 PM - 08:15 PM	63.3	48.4	10:50 PM - 10:55 PM	53.0	40.4
08:15 PM - 08:20 PM	63.6	50.0	10:55 PM - 11:00 PM	41.5	40.3
08:20 PM - 08:25 PM	62.0	47.6	11:00 PM - 11:05 PM	42.6	40.7
08:25 PM - 08:30 PM	62.0	46.0	11:05 PM - 11:10 PM	50.0	41.8
08:30 PM - 08:35 PM	62.4	47.0	11:10 PM - 11:15 PM	47.3	43.1
08:35 PM - 08:40 PM	63.3	46.9	11:15 PM - 11:20 PM	56.6	43.9
08:40 PM - 08:45 PM	58.1	46.3	11:20 PM - 11:25 PM	51.1	42.2
08:45 PM - 08:50 PM	62.9	46.9	11:25 PM - 11:30 PM	56.3	42.0
08:50 PM - 08:55 PM	59.7	46.5	11:30 PM - 11:35 PM	57.4	40.5
08:55 PM - 09:00 PM	59.2	46.7	11:35 PM - 11:40 PM	52.8	41.0
09:00 PM - 09:05 PM	60.7	47.9	11:40 PM - 11:45 PM	57.5	41.7
09:05 PM - 09:10 PM	58.7	48.1	11:45 PM - 11:50 PM	45.1	40.8
09:10 PM - 09:15 PM	60.8	48.2	11:50 PM - 11:55 PM	43.8	40.1
09:15 PM - 09:20 PM	57.3	46.7	11:55 PM - 12:00 AM	53.1	39.3
09:20 PM - 09:25 PM	62.8	48.1	12:00 AM - 12:05 AM	53.0	40.8
09:25 PM - 09:30 PM	58.4	54.4	12:05 AM - 12:10 AM	50.2	39.3
09:30 PM - 09:35 PM	63.9	53.9	12:10 AM - 12:15 AM	54.9	38.6
09:35 PM - 09:40 PM	62.4	44.5	12:15 AM - 12:20 AM	43.2	38.1
09:40 PM - 09:45 PM	63.9	45.1	12:20 AM - 12:25 AM	52.9	38.1
09:45 PM - 09:50 PM	58.0	44.5	12:25 AM - 12:30 AM	52.7	38.6
09:50 PM - 09:55 PM	62.1	44.3	12:30 AM - 12:35 AM	50.8	37.8
09:55 PM - 10:00 PM	60.3	44.3	12:35 AM - 12:40 AM	50.7	37.2
10:00 PM - 10:05 PM	59.1	43.8	12:40 AM - 12:45 AM	55.4	37.8
10:05 PM - 10:10 PM	65.4	45.4	12:45 AM - 12:50 AM	54.2	37.7
10:10 PM - 10:15 PM	51.0	45.6	12:50 AM - 12:55 AM	41.8	37.6
10:15 PM - 10:20 PM	60.0	47.8	12:55 AM - 01:00 AM	61.1	38.8
10:20 PM - 10:25 PM	58.4	46.5	01:00 AM - 01:05 AM	58.5	38.9
10:25 PM - 10:30 PM	58.4	45.3	01:05 AM - 01:10 AM	54.7	40.2
10:30 PM - 10:35 PM	53.3	44.6	01:10 AM - 01:15 AM	55.0	40.5
10:35 PM - 10:40 PM	64.8	45.5	01:15 AM - 01:20 AM	56.9	40.2

This document is valid only if the test is conducted in accordance with the standard specified in the report. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for any errors or omissions in this report. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for any errors or omissions in this report.

Approved by  
Sanyuth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534233-1

Page 3 of 3

Sample Number : 22147442-4  
Parameter : Noise Level (Leq 5 min)  
Location : จันทราภิรมย์ (N1) (GPS 479 734053, 1432206)  
Measurement Date : Dec 22 - Dec 23, 2022  
Measurement by : Siriwit Ruangsom vittanunauw 7-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 23, 2022 Time	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	50.6	40.3	06:40 AM - 06:45 AM	65.5	46.5
04:05 AM - 04:10 AM	54.5	40.2	06:45 AM - 06:50 AM	67.1	49.5
04:10 AM - 04:15 AM	48.8	40.4	06:50 AM - 06:55 AM	66.4	49.1
04:15 AM - 04:20 AM	58.2	42.2	06:55 AM - 07:00 AM	67.6	48.1
04:20 AM - 04:25 AM	62.8	43.2	07:00 AM - 07:05 AM	68.1	51.9
04:25 AM - 04:30 AM	57.4	42.8	07:05 AM - 07:10 AM	65.7	45.8
04:30 AM - 04:35 AM	57.9	42.4	07:10 AM - 07:15 AM	66.7	48.9
04:35 AM - 04:40 AM	58.6	41.4	07:15 AM - 07:20 AM	66.7	45.2
04:40 AM - 04:45 AM	62.1	42.8	07:20 AM - 07:25 AM	66.3	47.1
04:45 AM - 04:50 AM	60.8	42.0	07:25 AM - 07:30 AM	64.8	44.9
04:50 AM - 04:55 AM	62.1	43.1	07:30 AM - 07:35 AM	65.7	45.8
04:55 AM - 05:00 AM	56.7	42.6	07:35 AM - 07:40 AM	67.7	47.7
05:00 AM - 05:05 AM	61.5	43.0	07:40 AM - 07:45 AM	68.2	54.2
05:05 AM - 05:10 AM	63.4	45.1	07:45 AM - 07:50 AM	67.7	54.2
05:10 AM - 05:15 AM	63.0	44.9	07:50 AM - 07:55 AM	67.1	53.9
05:15 AM - 05:20 AM	60.4	43.9	07:55 AM - 08:00 AM	63.7	39.6
05:20 AM - 05:25 AM	65.3	48.7	08:00 AM - 08:05 AM	68.9	47.9
05:25 AM - 05:30 AM	66.0	47.2	08:05 AM - 08:10 AM	62.0	41.2
05:30 AM - 05:35 AM	64.2	48.5	08:10 AM - 08:15 AM	60.6	41.5
05:35 AM - 05:40 AM	66.2	49.3	08:15 AM - 08:20 AM	62.0	41.0
05:40 AM - 05:45 AM	67.4	51.4	08:20 AM - 08:25 AM	64.0	39.5
05:45 AM - 05:50 AM	68.8	50.0	08:25 AM - 08:30 AM	64.2	41.2
05:50 AM - 05:55 AM	69.3	51.8	08:30 AM - 08:35 AM	65.7	43.5
05:55 AM - 06:00 AM	67.0	52.5	08:35 AM - 08:40 AM	63.6	42.4
06:00 AM - 06:05 AM	68.5	53.4	08:40 AM - 08:45 AM	63.1	41.8
06:05 AM - 06:10 AM	68.6	55.1	08:45 AM - 08:50 AM	63.3	42.5
06:10 AM - 06:15 AM	67.4	43.8	08:50 AM - 08:55 AM	60.1	41.5
06:15 AM - 06:20 AM	69.4	55.7	08:55 AM - 09:00 AM	63.6	40.4
06:20 AM - 06:25 AM	67.1	49.5	09:00 AM - 09:05 AM	63.5	40.4
06:25 AM - 06:30 AM	67.4	47.0	09:05 AM - 09:10 AM	68.1	41.5
06:30 AM - 06:35 AM	69.8	57.4	09:10 AM - 09:15 AM	65.7	43.5
06:35 AM - 06:40 AM	66.6	48.8	09:15 AM - 09:20 AM	64.0	39.5

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Approved by  
Sanyuth Jitranont  
Assistant General Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phrak Daeng, Rayong Thailand 21140  
P/O : RMQ-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534234-1

Page 1 of 3

Sample Number : 22147442-5  
Parameter : Noise Level (Leq 5 min)  
Location : Unruiwathai (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 23 - Dec 24, 2022  
Measurement by : Siriwit Ruangsom watinuamrui 7-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 23, 2022	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	67.5	50.2	02:40 PM - 02:45 PM	61.9	42.2
12:05 PM - 12:10 PM	68.1	46.6	02:45 PM - 02:50 PM	60.9	41.1
12:10 PM - 12:15 PM	64.1	40.9	02:50 PM - 02:55 PM	62.9	42.7
12:15 PM - 12:20 PM	61.6	40.1	02:55 PM - 03:00 PM	61.3	42.4
12:20 PM - 12:25 PM	63.3	39.9	03:00 PM - 03:05 PM	62.9	42.6
12:25 PM - 12:30 PM	64.3	46.4	03:05 PM - 03:10 PM	60.6	42.6
12:30 PM - 12:35 PM	66.4	45.0	03:10 PM - 03:15 PM	68.3	52.6
12:35 PM - 12:40 PM	64.8	42.1	03:15 PM - 03:20 PM	60.8	41.9
12:40 PM - 12:45 PM	60.3	38.2	03:20 PM - 03:25 PM	68.4	42.6
12:45 PM - 12:50 PM	66.9	41.5	03:25 PM - 03:30 PM	65.0	42.4
12:50 PM - 12:55 PM	67.9	42.9	03:30 PM - 03:35 PM	64.3	41.0
12:55 PM - 01:00 PM	61.3	38.8	03:35 PM - 03:40 PM	66.3	41.7
01:00 PM - 01:05 PM	62.0	37.5	03:40 PM - 03:45 PM	65.8	44.2
01:05 PM - 01:10 PM	67.4	40.8	03:45 PM - 03:50 PM	65.9	45.5
01:10 PM - 01:15 PM	60.5	42.0	03:50 PM - 03:55 PM	67.0	46.9
01:15 PM - 01:20 PM	59.4	40.4	03:55 PM - 04:00 PM	68.3	52.6
01:20 PM - 01:25 PM	63.7	40.3	04:00 PM - 04:05 PM	66.9	48.2
01:25 PM - 01:30 PM	65.4	40.8	04:05 PM - 04:10 PM	64.7	49.6
01:30 PM - 01:35 PM	68.9	39.4	04:10 PM - 04:15 PM	69.5	54.9
01:35 PM - 01:40 PM	66.0	39.1	04:15 PM - 04:20 PM	68.3	52.6
01:40 PM - 01:45 PM	60.8	40.4	04:20 PM - 04:25 PM	69.9	55.5
01:45 PM - 01:50 PM	61.0	40.8	04:25 PM - 04:30 PM	69.5	52.2
01:50 PM - 01:55 PM	60.1	40.3	04:30 PM - 04:35 PM	66.1	50.1
01:55 PM - 02:00 PM	67.1	43.0	04:35 PM - 04:40 PM	66.1	49.8
02:00 PM - 02:05 PM	64.3	38.0	04:40 PM - 04:45 PM	68.6	51.8
02:05 PM - 02:10 PM	61.5	38.4	04:45 PM - 04:50 PM	68.3	51.7
02:10 PM - 02:15 PM	65.1	42.9	04:50 PM - 04:55 PM	67.6	49.1
02:15 PM - 02:20 PM	62.0	42.7	04:55 PM - 05:00 PM	69.4	50.9
02:20 PM - 02:25 PM	59.8	40.6	05:00 PM - 05:05 PM	65.3	48.2
02:25 PM - 02:30 PM	64.9	43.3	05:05 PM - 05:10 PM	68.3	51.3
02:30 PM - 02:35 PM	63.1	43.4	05:10 PM - 05:15 PM	65.7	51.9
02:35 PM - 02:40 PM	68.5	46.1	05:15 PM - 05:20 PM	64.8	50.1

Approved by

Sirayuth Jittrant  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phrak Daeng, Rayong Thailand 21140  
P/O : RMQ-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534234-1

Page 2 of 3

Sample Number : 22147442-5  
Parameter : Noise Level (Leq 5 min)  
Location : Unruiwathai (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 23 - Dec 24, 2022  
Measurement by : Siriwit Ruangsom watinuamrui 7-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 23 - Dec 24, 2022	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	66.7	48.7	10:40 PM - 10:45 PM	62.5	41.8
08:05 PM - 08:10 PM	62.2	48.8	10:45 PM - 10:50 PM	52.7	41.4
08:10 PM - 08:15 PM	64.4	49.6	10:50 PM - 10:55 PM	55.7	41.3
08:15 PM - 08:20 PM	61.9	47.8	10:55 PM - 11:00 PM	55.2	41.6
08:20 PM - 08:25 PM	65.0	48.5	11:00 PM - 11:05 PM	53.2	41.9
08:25 PM - 08:30 PM	60.1	49.7	11:05 PM - 11:10 PM	62.8	47.7
08:30 PM - 08:35 PM	60.3	49.9	11:10 PM - 11:15 PM	61.6	42.2
08:35 PM - 08:40 PM	64.7	48.9	11:15 PM - 11:20 PM	55.7	41.6
08:40 PM - 08:45 PM	66.5	48.9	11:20 PM - 11:25 PM	58.6	41.5
08:45 PM - 08:50 PM	58.6	49.7	11:25 PM - 11:30 PM	59.9	41.3
08:50 PM - 08:55 PM	62.0	49.5	11:30 PM - 11:35 PM	58.1	41.4
08:55 PM - 09:00 PM	56.2	48.4	11:35 PM - 11:40 PM	59.1	40.9
09:00 PM - 09:05 PM	66.9	48.8	11:40 PM - 11:45 PM	56.1	40.6
09:05 PM - 09:10 PM	58.2	48.4	11:45 PM - 11:50 PM	58.4	40.3
09:10 PM - 09:15 PM	66.6	49.0	11:50 PM - 11:55 PM	62.8	42.6
09:15 PM - 09:20 PM	66.0	49.5	11:55 PM - 12:00 PM	62.8	42.6
09:20 PM - 09:25 PM	60.0	48.5	12:00 AM - 12:05 AM	49.9	41.4
09:25 PM - 09:30 PM	53.3	47.7	12:05 AM - 12:10 AM	46.9	39.7
09:30 PM - 09:35 PM	58.4	45.1	12:10 AM - 12:15 AM	43.7	39.7
09:35 PM - 09:40 PM	58.8	45.1	12:15 AM - 12:20 AM	55.0	43.1
09:40 PM - 09:45 PM	61.8	46.2	12:20 AM - 12:25 AM	46.2	40.3
09:45 PM - 09:50 PM	64.5	46.3	12:25 AM - 12:30 AM	56.3	52.2
09:50 PM - 09:55 PM	58.0	46.2	12:30 AM - 12:35 AM	49.4	39.6
09:55 PM - 10:00 PM	57.2	45.1	12:35 AM - 12:40 AM	44.5	40.7
10:00 PM - 10:05 PM	55.1	43.8	12:40 AM - 12:45 AM	55.0	40.5
10:05 PM - 10:10 PM	54.3	43.4	12:45 AM - 12:50 AM	42.8	40.6
10:10 PM - 10:15 PM	55.2	43.2	12:50 AM - 12:55 AM	59.1	40.6
10:15 PM - 10:20 PM	58.7	43.4	12:55 AM - 01:00 AM	46.8	39.5
10:20 PM - 10:25 PM	61.2	43.5	01:00 AM - 01:05 AM	57.1	40.4
10:25 PM - 10:30 PM	44.9	43.1	01:05 AM - 01:10 AM	54.4	41.2
10:30 PM - 10:35 PM	58.8	43.1	01:10 AM - 01:15 AM	42.2	40.9
10:35 PM - 10:40 PM	54.7	42.0	01:15 AM - 01:20 AM	54.4	40.8

Approved by

Sirayuth Jittrant  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phrak Daeng, Rayong Thailand 21140  
P/O : RINC2-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number : 2534234-1

Page 3 of 3

Sample Number		22147442-5		Noise Level (Leq 5 min)		Parameter	
Location		ในโรงงาน (N1)		GPS 47P 734053, 1432206		Measurement Date	
Measurement by		Shiwit Ruangsom vatthumana		1-323-9-9475		Serial No. 00296518	
Sound Level meter		Dec 24, 2022		Leq		L90	
		Time		dB(A)		dB(A)	
		Dec 24, 2022		Time		Time	
04:00 AM - 04:05 AM		57.7		41.2		50.7	
04:05 AM - 04:10 AM		66.4		40.4		53.9	
04:10 AM - 04:15 AM		58.8		40.9		50.6	
04:15 AM - 04:20 AM		57.5		42.1		52.4	
04:20 AM - 04:25 AM		58.1		41.4		49.5	
04:25 AM - 04:30 AM		56.1		41.0		50.8	
04:30 AM - 04:35 AM		61.8		41.1		46.5	
04:35 AM - 04:40 AM		58.8		40.3		45.4	
04:40 AM - 04:45 AM		57.8		41.3		48.9	
04:45 AM - 04:50 AM		61.1		43.1		45.5	
04:50 AM - 04:55 AM		61.0		41.5		46.0	
04:55 AM - 05:00 AM		60.7		41.6		46.7	
05:00 AM - 05:05 AM		65.6		44.1		45.2	
05:05 AM - 05:10 AM		62.7		44.7		44.1	
05:10 AM - 05:15 AM		64.8		42.6		44.5	
05:15 AM - 05:20 AM		64.4		44.7		43.6	
05:20 AM - 05:25 AM		64.9		43.8		44.3	
05:25 AM - 05:30 AM		66.1		46.3		44.7	
05:30 AM - 05:35 AM		65.7		47.9		45.2	
05:35 AM - 05:40 AM		65.7		45.9		46.9	
05:40 AM - 05:45 AM		64.1		48.7		45.0	
05:45 AM - 05:50 AM		65.9		45.5		47.4	
05:50 AM - 05:55 AM		65.7		44.4		44.9	
05:55 AM - 06:00 AM		68.8		50.0		43.5	
06:00 AM - 06:05 AM		69.3		51.8		46.0	
06:05 AM - 06:10 AM		68.0		53.0		44.9	
06:10 AM - 06:15 AM		67.2		51.1		45.3	
06:15 AM - 06:20 AM		65.7		53.1		43.8	
06:20 AM - 06:25 AM		69.4		56.8		46.1	
06:25 AM - 06:30 AM		68.3		52.5		44.3	
06:30 AM - 06:35 AM		68.3		48.9		44.7	
06:35 AM - 06:40 AM		68.3		48.9		44.7	

The above result is valid only for the use of the sound level meter (Leq 5 min) as indicated in this report. The part of the report for the use of the sound level meter (Leq 5 min) is not valid if the sound level meter is not used as indicated in this report.

Approved by

Saranyuth Jitramont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phrak Daeng, Rayong Thailand 21140  
P/O : RINC2-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number : 2534235-1

Page 1 of 3

Sample Number		22147442-6		Noise Level (Leq 5 min)		Parameter	
Location		ในโรงงาน (N1)		GPS 47P 734053, 1432206		Measurement Date	
Measurement by		Shiwit Ruangsom vatthumana		1-323-9-9475		Serial No. 00296518	
Sound Level meter		Dec 24, 2022		Leq		L90	
		Time		dB(A)		dB(A)	
		Dec 24, 2022		Time		Time	
12:00 PM - 12:05 PM		66.8		50.5		58.0	
12:05 PM - 12:10 PM		68.1		46.3		44.5	
12:10 PM - 12:15 PM		63.5		43.2		41.6	
12:15 PM - 12:20 PM		69.1		46.9		43.4	
12:20 PM - 12:25 PM		67.4		44.9		44.3	
12:25 PM - 12:30 PM		65.3		41.7		45.3	
12:30 PM - 12:35 PM		64.9		42.3		44.5	
12:35 PM - 12:40 PM		62.1		43.9		45.4	
12:40 PM - 12:45 PM		67.9		44.3		43.6	
12:45 PM - 12:50 PM		63.8		40.6		42.4	
12:50 PM - 12:55 PM		65.3		42.0		48.9	
12:55 PM - 01:00 PM		57.8		43.2		50.5	
01:00 PM - 01:05 PM		64.5		41.8		55.3	
01:05 PM - 01:10 PM		63.7		43.4		51.0	
01:10 PM - 01:15 PM		59.3		40.3		47.8	
01:15 PM - 01:20 PM		62.8		44.6		45.9	
01:20 PM - 01:25 PM		63.5		42.5		46.9	
01:25 PM - 01:30 PM		64.7		45.5		45.9	
01:30 PM - 01:35 PM		65.8		46.2		50.7	
01:35 PM - 01:40 PM		69.6		45.3		45.9	
01:40 PM - 01:45 PM		61.2		43.4		51.6	
01:45 PM - 01:50 PM		65.6		43.6		46.8	
01:50 PM - 01:55 PM		66.0		45.4		51.0	
01:55 PM - 02:00 PM		66.0		43.3		51.9	
02:00 PM - 02:05 PM		65.1		41.5		49.7	
02:05 PM - 02:10 PM		61.9		40.3		51.0	
02:10 PM - 02:15 PM		59.7		43.5		53.5	
02:15 PM - 02:20 PM		63.8		44.9		51.9	
02:20 PM - 02:25 PM		62.7		40.8		50.1	
02:25 PM - 02:30 PM		65.3		42.1		48.7	
02:30 PM - 02:35 PM		65.6		43.7		48.0	
02:35 PM - 02:40 PM		63.8		42.2		45.6	
02:40 PM - 02:45 PM		63.8		42.2		46.1	

The above result is valid only for the use of the sound level meter (Leq 5 min) as indicated in this report. The part of the report for the use of the sound level meter (Leq 5 min) is not valid if the sound level meter is not used as indicated in this report.

Approved by

Saranyuth Jitramont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINC2-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534235-1

Page 2 of 3

Sample Number : 22147442-6  
Parameter : Noise Level (Leq 5 min)  
Location : Jiraphanwila (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 24 - Dec 25, 2022  
Measurement by : Sirikit Ruangsom wittanasuan 1-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 24, 2022	Dec 25, 2022	Leq	L90	Leq	L90
Time	Time	dB(A)	dB(A)	dB(A)	dB(A)
08:00 PM - 08:05 PM	10:40 PM - 10:45 PM	64.0	47.5	60.4	42.9
08:05 PM - 08:10 PM	10:45 PM - 10:50 PM	60.3	46.0	57.9	42.4
08:10 PM - 08:15 PM	10:50 PM - 10:55 PM	63.5	47.1	59.2	43.8
08:15 PM - 08:20 PM	10:55 PM - 11:00 PM	67.5	48.5	63.8	44.0
08:20 PM - 08:25 PM	11:00 PM - 11:05 PM	60.4	46.1	60.2	41.4
08:25 PM - 08:30 PM	11:05 PM - 11:10 PM	61.6	46.7	57.4	42.9
08:30 PM - 08:35 PM	11:10 PM - 11:15 PM	65.9	46.1	60.3	42.8
08:35 PM - 08:40 PM	11:15 PM - 11:20 PM	66.2	46.1	61.7	42.4
08:40 PM - 08:45 PM	11:20 PM - 11:25 PM	59.8	45.2	61.6	43.1
08:45 PM - 08:50 PM	11:25 PM - 11:30 PM	61.7	45.0	61.3	43.1
08:50 PM - 08:55 PM	11:30 PM - 11:35 PM	66.2	45.4	65.6	43.5
08:55 PM - 09:00 PM	11:35 PM - 11:40 PM	66.4	42.4	60.7	42.7
09:00 PM - 09:05 PM	11:40 PM - 11:45 PM	58.6	44.2	61.3	43.1
09:05 PM - 09:10 PM	11:45 PM - 11:50 PM	60.9	45.4	63.8	43.0
09:10 PM - 09:15 PM	11:50 PM - 11:55 PM	66.8	45.4	64.7	42.1
09:15 PM - 09:20 PM	11:55 PM - 12:00 AM	65.0	46.7	66.0	43.0
09:20 PM - 09:25 PM	12:00 AM - 12:05 AM	64.1	45.5	60.8	43.1
09:25 PM - 09:30 PM	12:05 AM - 12:10 AM	60.4	45.0	57.2	42.8
09:30 PM - 09:35 PM	12:10 AM - 12:15 AM	61.0	45.1	57.1	43.0
09:35 PM - 09:40 PM	12:15 AM - 12:20 AM	63.3	45.1	56.0	43.2
09:40 PM - 09:45 PM	12:20 AM - 12:25 AM	57.3	44.7	53.3	42.8
09:45 PM - 09:50 PM	12:25 AM - 12:30 AM	60.2	45.7	60.3	42.0
09:50 PM - 09:55 PM	12:30 AM - 12:35 AM	50.3	44.3	56.2	41.9
09:55 PM - 10:00 PM	12:35 AM - 12:40 AM	57.4	42.9	49.5	41.5
10:00 PM - 10:05 PM	12:40 AM - 12:45 AM	61.4	43.7	63.3	41.5
10:05 PM - 10:10 PM	12:45 AM - 12:50 AM	58.7	44.0	56.4	40.5
10:10 PM - 10:15 PM	12:50 AM - 12:55 AM	61.6	44.0	56.1	39.5
10:15 PM - 10:20 PM	12:55 AM - 01:00 AM	63.1	44.2	50.2	40.1
10:20 PM - 10:25 PM	01:00 AM - 01:05 AM	64.2	44.2	52.6	40.6
10:25 PM - 10:30 PM	01:05 AM - 01:10 AM	57.8	43.7	41.9	39.8
10:30 PM - 10:35 PM	01:10 AM - 01:15 AM	60.9	43.6	53.7	40.4
10:35 PM - 10:40 PM	01:15 AM - 01:20 AM	59.6	43.2	44.0	40.8
				47.6	39.7

The above results are valid only for the specified measurement period(s) as indicated in the report. The results are not valid for any other period(s) or location(s) without written consent from the Laboratory. ALS Laboratory Group (Thailand) Ltd. strongly recommends that the report be read in its entirety.

Approved by

Sirayuth Jittrantont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINC2-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534235-1

Page 3 of 3

Sample Number : 22147442-6  
Parameter : Noise Level (Leq 5 min)  
Location : Jiraphanwila (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 24 - Dec 25, 2022  
Measurement by : Sirikit Ruangsom wittanasuan 1-323-a-9475  
Sound Level meter : Serial No. 00296518

Dec 25, 2022	Dec 25, 2022	Leq	L90	Leq	L90
Time	Time	dB(A)	dB(A)	dB(A)	dB(A)
04:00 AM - 04:05 AM	06:40 AM - 06:45 AM	51.8	39.2	66.0	45.5
04:05 AM - 04:10 AM	06:45 AM - 06:50 AM	59.0	40.8	65.8	42.9
04:10 AM - 04:15 AM	06:50 AM - 06:55 AM	56.4	40.5	63.9	45.0
04:15 AM - 04:20 AM	06:55 AM - 07:00 AM	53.4	42.1	62.6	42.9
04:20 AM - 04:25 AM	07:00 AM - 07:05 AM	57.6	40.7	64.5	42.7
04:25 AM - 04:30 AM	07:05 AM - 07:10 AM	44.5	39.9	69.1	43.2
04:30 AM - 04:35 AM	07:10 AM - 07:15 AM	59.8	40.3	63.2	41.6
04:35 AM - 04:40 AM	07:15 AM - 07:20 AM	54.3	40.5	63.3	42.6
04:40 AM - 04:45 AM	07:20 AM - 07:25 AM	58.1	40.9	66.3	48.2
04:45 AM - 04:50 AM	07:25 AM - 07:30 AM	55.4	39.7	65.2	44.3
04:50 AM - 04:55 AM	07:30 AM - 07:35 AM	61.7	39.7	65.8	46.2
04:55 AM - 05:00 AM	07:35 AM - 07:40 AM	56.7	40.2	64.5	44.5
05:00 AM - 05:05 AM	07:40 AM - 07:45 AM	56.6	40.3	65.7	47.2
05:05 AM - 05:10 AM	07:45 AM - 07:50 AM	59.3	39.9	62.6	46.7
05:10 AM - 05:15 AM	07:50 AM - 07:55 AM	57.9	38.9	65.8	45.6
05:15 AM - 05:20 AM	07:55 AM - 08:00 AM	59.2	41.4	63.8	46.8
05:20 AM - 05:25 AM	08:00 AM - 08:05 AM	61.5	43.4	66.9	44.7
05:25 AM - 05:30 AM	08:05 AM - 08:10 AM	64.3	44.2	62.5	45.8
05:30 AM - 05:35 AM	08:10 AM - 08:15 AM	58.9	42.3	66.4	47.0
05:35 AM - 05:40 AM	08:15 AM - 08:20 AM	59.2	43.6	66.6	45.1
05:40 AM - 05:45 AM	08:20 AM - 08:25 AM	63.3	43.0	65.0	44.8
05:45 AM - 05:50 AM	08:25 AM - 08:30 AM	62.5	44.5	63.5	43.2
05:50 AM - 05:55 AM	08:30 AM - 08:35 AM	63.0	44.3	65.5	45.5
05:55 AM - 06:00 AM	08:35 AM - 08:40 AM	65.6	44.3	64.7	45.3
06:00 AM - 06:05 AM	08:40 AM - 08:45 AM	65.3	44.5	65.4	46.8
06:05 AM - 06:10 AM	08:45 AM - 08:50 AM	67.7	44.2	64.8	45.6
06:10 AM - 06:15 AM	08:50 AM - 08:55 AM	67.3	44.7	64.6	47.4
06:15 AM - 06:20 AM	08:55 AM - 09:00 AM	66.7	48.7	65.0	47.7
06:20 AM - 06:25 AM	09:00 AM - 09:05 AM	66.5	54.1	65.8	49.8
06:25 AM - 06:30 AM	09:05 AM - 09:10 AM	66.9	47.0	60.9	48.8
06:30 AM - 06:35 AM	09:10 AM - 09:15 AM	67.1	49.3	66.8	47.3
06:35 AM - 06:40 AM	09:15 AM - 09:20 AM	65.9	45.7	63.4	42.2

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Approved by

Sirayuth Jittrantont  
Assistant General Manager





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RJC(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2534236-1

Page 1 of 3

Sample Number : 22147442-7  
Parameter : Noise Level (Leq 5 min)  
Location : จันทนาภิบาล (N1) (GPS 477 734053, 1432206)  
Measurement Date : Dec 25 - Dec 26, 2022  
Measurement by : Sirwit Ruangsom Wittunuanthi 3-323-9-9475  
Sound Level meter : Serial No. 00296518

Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)	Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	65.0	40.7	64.3	02:40 PM - 02:45 PM	64.3	52.5	47.8
12:05 PM - 12:10 PM	65.0	45.2	69.8	02:45 PM - 02:50 PM	69.8	56.9	45.8
12:10 PM - 12:15 PM	63.0	41.8	66.6	02:50 PM - 02:55 PM	63.6	47.6	47.6
12:15 PM - 12:20 PM	64.5	42.8	66.0	02:55 PM - 03:00 PM	62.9	48.2	48.2
12:20 PM - 12:25 PM	63.4	40.8	64.9	03:00 PM - 03:05 PM	65.9	51.6	51.6
12:25 PM - 12:30 PM	62.2	44.4	67.1	03:05 PM - 03:10 PM	65.1	51.1	51.1
12:30 PM - 12:35 PM	63.4	41.6	66.2	03:10 PM - 03:15 PM	64.0	52.0	52.0
12:35 PM - 12:40 PM	63.0	39.4	63.4	03:15 PM - 03:20 PM	63.1	52.0	52.0
12:40 PM - 12:45 PM	63.0	41.2	66.2	03:20 PM - 03:25 PM	65.3	52.0	52.0
12:45 PM - 12:50 PM	69.8	48.1	63.5	03:25 PM - 03:30 PM	63.3	51.7	51.7
12:50 PM - 12:55 PM	63.0	43.4	64.2	03:30 PM - 03:35 PM	64.9	51.9	51.9
12:55 PM - 01:00 PM	61.4	43.1	64.4	03:35 PM - 03:40 PM	64.1	50.9	50.9
01:00 PM - 01:05 PM	62.2	43.0	63.9	03:40 PM - 03:45 PM	65.9	50.2	50.2
01:05 PM - 01:10 PM	63.6	40.5	65.7	03:45 PM - 03:50 PM	64.3	50.6	50.6
01:10 PM - 01:15 PM	64.4	46.2	63.4	03:50 PM - 03:55 PM	64.9	48.9	48.9
01:15 PM - 01:20 PM	64.8	53.0	68.3	03:55 PM - 04:00 PM	62.6	49.0	49.0
01:20 PM - 01:25 PM	63.8	52.1	63.8	04:00 PM - 04:05 PM	63.5	48.9	48.9
01:25 PM - 01:30 PM	61.8	43.2	64.4	04:05 PM - 04:10 PM	62.6	48.0	48.0
01:30 PM - 01:35 PM	63.5	46.5	68.9	04:10 PM - 04:15 PM	61.1	48.8	48.8
01:35 PM - 01:40 PM	67.9	45.6	69.6	04:15 PM - 04:20 PM	60.2	48.0	48.0
01:40 PM - 01:45 PM	59.4	44.0	60.3	04:20 PM - 04:25 PM	63.4	48.0	48.0
01:45 PM - 01:50 PM	66.5	46.5	68.0	04:25 PM - 04:30 PM	62.8	49.8	49.8
01:50 PM - 01:55 PM	64.5	46.7	64.7	04:30 PM - 04:35 PM	65.0	49.7	49.7
01:55 PM - 02:00 PM	68.8	48.4	68.3	04:35 PM - 04:40 PM	65.2	48.9	48.9
02:00 PM - 02:05 PM	55.4	47.3	66.3	04:40 PM - 04:45 PM	65.4	47.6	47.6
02:05 PM - 02:10 PM	67.5	47.8	65.1	04:45 PM - 04:50 PM	62.9	48.2	48.2
02:10 PM - 02:15 PM	65.4	47.3	67.0	04:50 PM - 04:55 PM	62.7	48.2	48.2
02:15 PM - 02:20 PM	63.6	48.3	66.8	04:55 PM - 05:00 PM	64.9	48.1	48.1
02:20 PM - 02:25 PM	61.8	44.9	65.8	05:00 PM - 05:05 PM	63.4	48.9	48.9
02:25 PM - 02:30 PM	63.5	46.9	66.6	05:05 PM - 05:10 PM	63.3	48.9	48.9
02:30 PM - 02:35 PM	62.9	52.8	64.1	05:10 PM - 05:15 PM	60.3	47.6	47.6
02:35 PM - 02:40 PM	62.4	50.5	65.4	05:15 PM - 05:20 PM	61.9	47.9	47.9

Signature

Saranyit Jitramont  
Assistant General Manager

Approved by

Saranyit Jitramont  
Assistant General Manager

The above results are valid only for the analyzed location and time.  
It is not a part of this report to certify that the results are representative of any form  
without the consent of the Laboratory. ALS Laboratory Group (Thailand) Ltd.  
is not recommended to be used for any other purpose without the consent of the Laboratory.



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RJC(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2534236-1

Page 2 of 3

Sample Number : 22147442-7  
Parameter : Noise Level (Leq 5 min)  
Location : จันทนาภิบาล (N1) (GPS 477 734053, 1432206)  
Measurement Date : Dec 25 - Dec 26, 2022  
Measurement by : Sirwit Ruangsom Wittunuanthi 3-323-9-9475  
Sound Level meter : Serial No. 00296518

Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)	Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	62.1	47.4	62.4	10:40 PM - 10:45 PM	40.9	40.9	41.1
08:05 PM - 08:10 PM	55.3	46.9	66.3	10:45 PM - 10:50 PM	41.0	40.9	40.8
08:10 PM - 08:15 PM	61.7	44.8	52.2	10:50 PM - 10:55 PM	41.0	40.9	40.3
08:15 PM - 08:20 PM	59.6	46.2	50.4	10:55 PM - 11:00 PM	40.8	40.9	40.9
08:20 PM - 08:25 PM	61.3	46.1	54.1	11:00 PM - 11:05 PM	41.4	40.7	40.7
08:25 PM - 08:30 PM	56.8	44.4	44.3	11:05 PM - 11:10 PM	42.3	41.7	39.7
08:30 PM - 08:35 PM	62.6	45.0	53.3	11:10 PM - 11:15 PM	41.4	42.8	39.9
08:35 PM - 08:40 PM	60.1	44.4	50.2	11:15 PM - 11:20 PM	41.7	42.8	40.6
08:40 PM - 08:45 PM	61.2	44.2	54.7	11:20 PM - 11:25 PM	42.4	42.7	39.6
08:45 PM - 08:50 PM	63.0	44.6	52.3	11:25 PM - 11:30 PM	42.3	42.7	39.4
08:50 PM - 08:55 PM	58.2	43.5	50.0	11:30 PM - 11:35 PM	42.1	43.5	39.0
08:55 PM - 09:00 PM	57.8	44.0	54.1	11:35 PM - 11:40 PM	41.4	44.7	39.0
09:00 PM - 09:05 PM	50.8	44.1	52.1	11:40 PM - 11:45 PM	41.5	47.0	38.7
09:05 PM - 09:10 PM	51.7	42.9	47.2	11:45 PM - 11:50 PM	41.5	44.6	38.2
09:10 PM - 09:15 PM	58.2	42.2	52.5	11:50 PM - 11:55 PM	41.3	46.1	37.8
09:15 PM - 09:20 PM	66.4	42.4	54.4	11:55 PM - 12:00 AM	41.0	39.1	36.8
09:20 PM - 09:25 PM	60.2	42.0	58.0	12:00 AM - 12:05 AM	41.1	38.9	36.6
09:25 PM - 09:30 PM	53.7	41.8	49.6	12:05 AM - 12:10 AM	41.0	37.4	36.6
09:30 PM - 09:35 PM	50.9	40.4	44.6	12:10 AM - 12:15 AM	41.1	37.4	36.6
09:35 PM - 09:40 PM	55.2	42.2	52.4	12:15 AM - 12:20 AM	41.2	37.8	37.8
09:40 PM - 09:45 PM	60.2	42.0	44.2	12:20 AM - 12:25 AM	41.0	37.7	37.7
09:45 PM - 09:50 PM	59.6	42.2	56.2	12:25 AM - 12:30 AM	41.3	38.6	38.6
09:50 PM - 09:55 PM	60.7	42.8	44.5	12:30 AM - 12:35 AM	41.0	43.2	38.1
09:55 PM - 10:00 PM	55.5	41.2	45.1	12:35 AM - 12:40 AM	41.2	36.6	36.6
10:00 PM - 10:05 PM	57.6	40.7	47.6	12:40 AM - 12:45 AM	41.3	37.0	37.0
10:05 PM - 10:10 PM	52.9	41.3	58.6	12:45 AM - 12:50 AM	42.0	37.6	37.6
10:10 PM - 10:15 PM	54.6	40.3	52.1	12:50 AM - 12:55 AM	41.2	38.3	38.3
10:15 PM - 10:20 PM	52.7	40.6	45.6	12:55 AM - 01:00 AM	41.1	38.4	38.4
10:20 PM - 10:25 PM	52.8	41.0	46.5	01:00 AM - 01:05 AM	41.8	38.5	38.5
10:25 PM - 10:30 PM	47.1	41.8	58.2	01:05 AM - 01:10 AM	41.1	39.6	39.6
10:30 PM - 10:35 PM	57.5	41.3	44.3	01:10 AM - 01:15 AM	41.5	38.5	38.5
10:35 PM - 10:40 PM	58.0	41.4	46.2	01:15 AM - 01:20 AM	41.6	40.1	40.1

Signature

Approved by

Saranyit Jitramont  
Assistant General Manager

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It is not a part of this report to certify that the results are representative of any form  
without the consent of the Laboratory. ALS Laboratory Group (Thailand) Ltd.  
is not recommended to be used for any other purpose without the consent of the Laboratory.



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINQ-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534236-1

Page 3 of 3

Sample Number	22147442-7	Leq	L90	Dec 26, 2022	Leq	L90
Parameter	Noise Level (Leq 5 min)	dB(A)	dB(A)	Time	dB(A)	dB(A)
Location	พื้นที่บริเวณใกล้ 2 อาคารหมายเลข 15 (N2) (GPS 47P 734053, 1432206)					
Measurement Date	Dec 25 - Dec 26, 2022					
Measurement by	Shiwit Ruangsom vatthanasri 1-323-a-9475					
Sound Level meter	Serial No. 00296518					
Dec 26, 2022	Time	Leq	L90	Dec 26, 2022	Leq	L90
04:00 AM - 04:05 AM	06:40 AM - 06:45 AM	50.4	38.1	09:20 AM - 09:25 AM	67.1	49.9
04:05 AM - 04:10 AM	06:45 AM - 06:50 AM	53.6	39.2	09:25 AM - 09:30 AM	67.5	50.2
04:10 AM - 04:15 AM	06:50 AM - 06:55 AM	59.2	39.0	09:30 AM - 09:35 AM	68.3	52.3
04:15 AM - 04:20 AM	06:55 AM - 07:00 AM	53.9	39.3	09:35 AM - 09:40 AM	63.4	51.3
04:20 AM - 04:25 AM	07:00 AM - 07:05 AM	55.6	37.6	09:40 AM - 09:45 AM	69.3	49.8
04:25 AM - 04:30 AM	07:05 AM - 07:10 AM	55.4	38.8	09:45 AM - 09:50 AM	65.9	44.7
04:30 AM - 04:35 AM	07:10 AM - 07:15 AM	52.9	39.9	09:50 AM - 09:55 AM	66.7	44.6
04:35 AM - 04:40 AM	07:15 AM - 07:20 AM	61.3	39.0	09:55 AM - 10:00 AM	69.1	49.2
04:40 AM - 04:45 AM	07:20 AM - 07:25 AM	58.1	38.3	10:00 AM - 10:05 AM	69.4	47.1
04:45 AM - 04:50 AM	07:25 AM - 07:30 AM	66.2	39.2	10:05 AM - 10:10 AM	67.5	50.2
04:50 AM - 04:55 AM	07:30 AM - 07:35 AM	55.8	39.8	10:10 AM - 10:15 AM	67.0	49.2
04:55 AM - 05:00 AM	07:35 AM - 07:40 AM	58.9	39.7	10:15 AM - 10:20 AM	66.9	46.6
05:00 AM - 05:05 AM	07:40 AM - 07:45 AM	59.4	40.0	10:20 AM - 10:25 AM	68.3	46.9
05:05 AM - 05:10 AM	07:45 AM - 07:50 AM	62.5	41.4	10:25 AM - 10:30 AM	69.2	47.7
05:10 AM - 05:15 AM	07:50 AM - 07:55 AM	64.9	42.8	10:30 AM - 10:35 AM	68.0	44.7
05:15 AM - 05:20 AM	07:55 AM - 08:00 AM	62.0	43.6	10:35 AM - 10:40 AM	68.4	46.4
05:20 AM - 05:25 AM	08:00 AM - 08:05 AM	61.2	41.6	10:40 AM - 10:45 AM	68.1	46.9
05:25 AM - 05:30 AM	08:05 AM - 08:10 AM	62.9	43.7	10:45 AM - 10:50 AM	69.0	47.7
05:30 AM - 05:35 AM	08:10 AM - 08:15 AM	64.1	44.7	10:50 AM - 10:55 AM	68.7	45.5
05:35 AM - 05:40 AM	08:15 AM - 08:20 AM	63.3	44.4	10:55 AM - 11:00 AM	65.4	47.2
05:40 AM - 05:45 AM	08:20 AM - 08:25 AM	67.0	49.3	11:00 AM - 11:05 AM	69.6	50.6
05:45 AM - 05:50 AM	08:25 AM - 08:30 AM	65.1	55.7	11:05 AM - 11:10 AM	67.2	46.7
05:50 AM - 05:55 AM	08:30 AM - 08:35 AM	65.6	51.0	11:10 AM - 11:15 AM	65.7	54.8
05:55 AM - 06:00 AM	08:35 AM - 08:40 AM	68.9	54.8	11:15 AM - 11:20 AM	69.5	47.8
06:00 AM - 06:05 AM	08:40 AM - 08:45 AM	68.0	54.7	11:20 AM - 11:25 AM	66.1	47.8
06:05 AM - 06:10 AM	08:45 AM - 08:50 AM	69.4	55.9	11:25 AM - 11:30 AM	64.3	45.8
06:10 AM - 06:15 AM	08:50 AM - 08:55 AM	68.3	52.8	11:30 AM - 11:35 AM	63.6	47.6
06:15 AM - 06:20 AM	08:55 AM - 09:00 AM	69.3	54.5	11:35 AM - 11:40 AM	62.9	48.2
06:20 AM - 06:25 AM	09:00 AM - 09:05 AM	65.7	52.0	11:40 AM - 11:45 AM	65.9	51.6
06:25 AM - 06:30 AM	09:05 AM - 09:10 AM	64.6	49.1	11:45 AM - 11:50 AM	65.1	51.1
06:30 AM - 06:35 AM	09:10 AM - 09:15 AM	67.1	53.3	11:50 AM - 11:55 AM	64.0	52.0
06:35 AM - 06:40 AM	09:15 AM - 09:20 AM	69.9	52.6	11:55 AM - 12:00 PM	63.1	52.0

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Approved by  
Sarayu Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINQ-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534237-1

Page 1 of 2

Sample Number	22147442-8	Leq	L90	Dec 19, 2022	Leq	L90
Parameter	Noise Level (Leq 5 min)	dB(A)	dB(A)	Time	dB(A)	dB(A)
Location	พื้นที่บริเวณใกล้ 2 อาคารหมายเลข 15 (N2) (GPS 47P 733675, 1434009)					
Measurement Date	Dec 19 - Dec 20, 2022					
Measurement by	Shiwit Ruangsom vatthanasri 1-323-a-9475					
Sound Level meter	Serial No. 00472124					
Dec 19, 2022	Time	Leq	L90	Dec 19, 2022	Leq	L90
12:00 PM - 12:05 PM	02:40 PM - 02:45 PM	63.8	57.6	05:20 PM - 05:25 PM	64.2	52.3
12:05 PM - 12:10 PM	02:45 PM - 02:50 PM	68.1	45.4	05:25 PM - 05:30 PM	63.6	51.5
12:10 PM - 12:15 PM	02:50 PM - 02:55 PM	63.3	46.1	05:30 PM - 05:35 PM	64.4	52.8
12:15 PM - 12:20 PM	02:55 PM - 03:00 PM	63.6	43.6	05:35 PM - 05:40 PM	67.8	54.6
12:20 PM - 12:25 PM	03:00 PM - 03:05 PM	59.9	42.9	05:40 PM - 05:45 PM	66.1	54.6
12:25 PM - 12:30 PM	03:05 PM - 03:10 PM	63.5	42.3	05:45 PM - 05:50 PM	63.8	54.6
12:30 PM - 12:35 PM	03:10 PM - 03:15 PM	61.1	47.1	05:50 PM - 05:55 PM	69.2	54.5
12:35 PM - 12:40 PM	03:15 PM - 03:20 PM	63.5	43.7	05:55 PM - 06:00 PM	66.4	54.3
12:40 PM - 12:45 PM	03:20 PM - 03:25 PM	61.7	45.0	06:00 PM - 06:05 PM	68.6	54.0
12:45 PM - 12:50 PM	03:25 PM - 03:30 PM	61.0	45.4	06:05 PM - 06:10 PM	62.9	53.6
12:50 PM - 12:55 PM	03:30 PM - 03:35 PM	59.1	45.6	06:10 PM - 06:15 PM	63.1	52.3
12:55 PM - 01:00 PM	03:35 PM - 03:40 PM	57.9	47.1	06:15 PM - 06:20 PM	62.7	51.2
01:00 PM - 01:05 PM	03:40 PM - 03:45 PM	58.5	45.1	06:20 PM - 06:25 PM	63.9	52.4
01:05 PM - 01:10 PM	03:45 PM - 03:50 PM	65.0	44.5	06:25 PM - 06:30 PM	64.9	52.0
01:10 PM - 01:15 PM	03:50 PM - 03:55 PM	62.8	42.9	06:30 PM - 06:35 PM	68.4	52.7
01:15 PM - 01:20 PM	03:55 PM - 04:00 PM	60.5	41.2	06:35 PM - 06:40 PM	63.7	53.3
01:20 PM - 01:25 PM	04:00 PM - 04:05 PM	55.4	42.3	06:40 PM - 06:45 PM	64.0	51.4
01:25 PM - 01:30 PM	04:05 PM - 04:10 PM	62.2	44.5	06:45 PM - 06:50 PM	63.5	51.9
01:30 PM - 01:35 PM	04:10 PM - 04:15 PM	62.4	43.2	06:50 PM - 06:55 PM	63.8	52.3
01:35 PM - 01:40 PM	04:15 PM - 04:20 PM	62.4	39.8	06:55 PM - 07:00 PM	65.6	51.5
01:40 PM - 01:45 PM	04:20 PM - 04:25 PM	62.3	41.5	07:00 PM - 07:05 PM	62.5	52.9
01:45 PM - 01:50 PM	04:25 PM - 04:30 PM	58.1	41.6	07:05 PM - 07:10 PM	64.2	50.2
01:50 PM - 01:55 PM	04:30 PM - 04:35 PM	60.8	44.9	07:10 PM - 07:15 PM	61.3	52.2
01:55 PM - 02:00 PM	04:35 PM - 04:40 PM	60.3	44.6	07:15 PM - 07:20 PM	66.4	52.8
02:00 PM - 02:05 PM	04:40 PM - 04:45 PM	62.0	42.6	07:20 PM - 07:25 PM	62.5	53.1
02:05 PM - 02:10 PM	04:45 PM - 04:50 PM	60.2	41.0	07:25 PM - 07:30 PM	66.5	51.1
02:10 PM - 02:15 PM	04:50 PM - 04:55 PM	63.4	44.1	07:30 PM - 07:35 PM	67.2	52.8
02:15 PM - 02:20 PM	04:55 PM - 05:00 PM	61.1	43.7	07:35 PM - 07:40 PM	62.1	52.3
02:20 PM - 02:25 PM	05:00 PM - 05:05 PM	60.3	40.3	07:40 PM - 07:45 PM	62.1	51.0
02:25 PM - 02:30 PM	05:05 PM - 05:10 PM	59.7	42.8	07:45 PM - 07:50 PM	61.7	50.0
02:30 PM - 02:35 PM	05:10 PM - 05:15 PM	63.5	42.3	07:50 PM - 07:55 PM	60.0	49.5
02:35 PM - 02:40 PM	05:15 PM - 05:20 PM	60.1	41.3	07:55 PM - 08:00 PM	59.4	49.3

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Approved by

Sarayu Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUC/2-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534237-1

Sample Number : 22147442-8  
Parameter : Noise Level (Leq 5 min)  
Location : ถนนวิภาวดีรังสิต กม. 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 19 - Dec 20, 2022  
Measurement by : Sirwit Ruangsom vittitunaaan 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 19, 2022	Leq dB(A)	L90 dB(A)	Dec 19 - Dec 20, 2022	Time	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	62.9	50.2	10:40 PM - 10:45 PM	51.7	44.2	41.1
08:05 PM - 08:10 PM	62.3	48.6	10:45 PM - 10:50 PM	51.0	44.6	40.9
08:10 PM - 08:15 PM	63.0	48.5	10:50 PM - 10:55 PM	51.1	44.7	40.3
08:15 PM - 08:20 PM	60.1	49.2	10:55 PM - 11:00 PM	55.2	45.6	40.2
08:20 PM - 08:25 PM	61.6	47.8	11:00 PM - 11:05 PM	55.2	45.6	40.0
08:25 PM - 08:30 PM	50.1	47.4	11:05 PM - 11:10 PM	45.9	44.6	42.5
08:30 PM - 08:35 PM	61.8	48.1	11:10 PM - 11:15 PM	57.0	44.6	43.7
08:35 PM - 08:40 PM	58.6	47.8	11:15 PM - 11:20 PM	57.5	44.8	43.6
08:40 PM - 08:45 PM	59.0	48.6	11:20 PM - 11:25 PM	46.1	42.9	43.6
08:45 PM - 08:50 PM	59.3	48.0	11:25 PM - 11:30 PM	58.1	42.8	43.7
08:50 PM - 08:55 PM	64.0	47.7	11:30 PM - 11:35 PM	57.1	42.5	44.0
08:55 PM - 09:00 PM	56.4	48.3	11:35 PM - 11:40 PM	53.1	42.6	44.6
09:00 PM - 09:05 PM	56.6	48.5	11:40 PM - 11:45 PM	49.6	42.1	41.9
09:05 PM - 09:10 PM	67.6	46.1	11:45 PM - 11:50 PM	42.3	41.6	43.4
09:10 PM - 09:15 PM	59.8	46.1	11:50 PM - 11:55 PM	49.8	42.3	41.2
09:15 PM - 09:20 PM	55.7	45.8	11:55 PM - 12:00 AM	46.0	43.9	40.4
09:20 PM - 09:25 PM	60.7	46.3	12:00 AM - 12:05 AM	45.5	43.2	42.2
09:25 PM - 09:30 PM	56.7	46.1	12:05 AM - 12:10 AM	46.0	41.5	45.3
09:30 PM - 09:35 PM	63.1	45.8	12:10 AM - 12:15 AM	47.7	41.1	42.9
09:35 PM - 09:40 PM	59.2	45.5	12:15 AM - 12:20 AM	50.5	41.9	45.0
09:40 PM - 09:45 PM	58.7	45.4	12:20 AM - 12:25 AM	47.7	41.8	44.5
09:45 PM - 09:50 PM	50.8	45.2	12:25 AM - 12:30 AM	50.2	44.4	44.5
09:50 PM - 09:55 PM	54.2	45.3	12:30 AM - 12:35 AM	45.7	44.3	41.7
09:55 PM - 10:00 PM	53.1	44.8	12:35 AM - 12:40 AM	44.6	42.0	41.0
10:00 PM - 10:05 PM	60.7	44.3	12:40 AM - 12:45 AM	43.4	42.0	40.7
10:05 PM - 10:10 PM	56.6	44.2	12:45 AM - 12:50 AM	46.2	40.8	41.1
10:10 PM - 10:15 PM	46.2	44.0	12:50 AM - 12:55 AM	42.6	41.0	42.0
10:15 PM - 10:20 PM	57.4	44.0	12:55 AM - 01:00 AM	59.8	39.9	40.7
10:20 PM - 10:25 PM	51.7	42.5	01:00 AM - 01:05 AM	43.4	42.4	39.9
10:25 PM - 10:30 PM	53.6	45.1	01:05 AM - 01:10 AM	43.1	41.7	38.6
10:30 PM - 10:35 PM	54.7	44.5	01:10 AM - 01:15 AM	47.4	40.1	39.9
10:35 PM - 10:40 PM	49.8	44.2	01:15 AM - 01:20 AM	46.7	40.0	39.8

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Assistant General Manager

Approved by

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluek Daeng, Rayong Thailand 21140  
P/O : RUC/2-030/65  
Project Name : Pluek Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534237-1

Sample Number : 22147442-8  
Parameter : Noise Level (Leq 5 min)  
Location : ถนนวิภาวดีรังสิต กม. 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 19 - Dec 20, 2022  
Measurement by : Sirwit Ruangsom vittitunaaan 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 20, 2022	Leq dB(A)	L90 dB(A)	Dec 20, 2022	Time	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	66.5	41.1	06:40 AM - 06:45 AM	67.3	57.1	45.1
04:05 AM - 04:10 AM	51.0	39.5	06:45 AM - 06:50 AM	69.7	55.3	45.1
04:10 AM - 04:15 AM	48.4	39.8	06:50 AM - 06:55 AM	67.7	53.4	42.2
04:15 AM - 04:20 AM	50.1	39.9	06:55 AM - 07:00 AM	65.9	55.9	61.2
04:20 AM - 04:25 AM	56.6	42.4	07:00 AM - 07:05 AM	69.1	48.1	44.1
04:25 AM - 04:30 AM	56.2	41.7	07:05 AM - 07:10 AM	65.7	48.9	43.9
04:30 AM - 04:35 AM	48.7	41.1	07:10 AM - 07:15 AM	65.7	47.7	43.9
04:35 AM - 04:40 AM	55.3	41.0	07:15 AM - 07:20 AM	65.3	46.2	44.7
04:40 AM - 04:45 AM	55.9	41.4	07:20 AM - 07:25 AM	61.3	44.1	44.4
04:45 AM - 04:50 AM	58.2	41.1	07:25 AM - 07:30 AM	64.1	45.6	42.2
04:50 AM - 04:55 AM	60.2	41.4	07:30 AM - 07:35 AM	64.2	46.3	41.6
04:55 AM - 05:00 AM	57.1	41.8	07:35 AM - 07:40 AM	62.6	45.5	46.5
05:00 AM - 05:05 AM	57.5	42.3	07:40 AM - 07:45 AM	62.9	46.0	42.9
05:05 AM - 05:10 AM	55.4	41.7	07:45 AM - 07:50 AM	64.0	45.8	44.1
05:10 AM - 05:15 AM	59.9	43.2	07:50 AM - 07:55 AM	62.1	45.0	46.7
05:15 AM - 05:20 AM	50.1	42.7	07:55 AM - 08:00 AM	65.0	47.2	47.2
05:20 AM - 05:25 AM	62.4	44.8	08:00 AM - 08:05 AM	65.1	47.5	45.9
05:25 AM - 05:30 AM	63.2	46.1	08:05 AM - 08:10 AM	64.4	47.0	46.5
05:30 AM - 05:35 AM	63.6	48.7	08:10 AM - 08:15 AM	61.3	46.5	46.9
05:35 AM - 05:40 AM	63.6	48.7	08:15 AM - 08:20 AM	59.8	43.7	49.3
05:40 AM - 05:45 AM	63.6	44.8	08:20 AM - 08:25 AM	63.6	45.1	45.2
05:45 AM - 05:50 AM	67.8	54.2	08:25 AM - 08:30 AM	63.6	43.3	45.4
05:50 AM - 05:55 AM	66.5	51.6	08:30 AM - 08:35 AM	69.2	44.1	45.8
05:55 AM - 06:00 AM	68.8	53.2	08:35 AM - 08:40 AM	60.4	47.7	44.9
06:00 AM - 06:05 AM	63.4	52.2	08:40 AM - 08:45 AM	60.1	45.8	44.0
06:05 AM - 06:10 AM	68.0	50.8	08:45 AM - 08:50 AM	62.5	47.1	45.8
06:10 AM - 06:15 AM	69.8	53.2	08:50 AM - 08:55 AM	61.8	47.4	46.6
06:15 AM - 06:20 AM	65.9	52.5	08:55 AM - 09:00 AM	60.2	47.2	47.1
06:20 AM - 06:25 AM	68.5	54.1	09:00 AM - 09:05 AM	63.0	50.0	44.8
06:25 AM - 06:30 AM	69.3	57.4	09:05 AM - 09:10 AM	59.4	47.1	40.1
06:30 AM - 06:35 AM	67.8	54.4	09:10 AM - 09:15 AM	59.2	46.1	43.2
06:35 AM - 06:40 AM	60.3	55.5	09:15 AM - 09:20 AM	61.5	45.8	45.7

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Signature  
Sairiyuth Jitranont  
Assistant General Manager

Approved by

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534238-1

Page 1 of 3

Sample Number	22147442-9	Noise Level (Leq 5 min)	Dec 20, 2022	Leq	L90
Parameter				dB(A)	dB(A)
Location	พื้นที่ภายในโรงงาน 2 ส่วนตามรูป 15 (N2) (GPS 47P 733675, 1434009)				
Measurement Date	Dec 20 - Dec 21, 2022				
Measurement by	Siwit Ruangsom วาดินมูล 7-323-9-9475				
Sound Level meter	Serial No. 00472124				
Dec 20, 2022	Time	Leq	L90	Leq	L90
		dB(A)	dB(A)	dB(A)	dB(A)
12:00 PM - 12:05 PM	02:40 PM - 02:45 PM	61.5	42.4	64.1	50.2
12:05 PM - 12:10 PM	02:45 PM - 02:50 PM	61.2	40.8	66.9	55.1
12:10 PM - 12:15 PM	02:50 PM - 02:55 PM	61.9	51.1	68.5	54.1
12:15 PM - 12:20 PM	02:55 PM - 03:00 PM	60.1	41.5	61.7	57.9
12:20 PM - 12:25 PM	03:00 PM - 03:05 PM	63.2	45.1	63.2	59.0
12:25 PM - 12:30 PM	03:05 PM - 03:10 PM	58.0	39.4	62.9	58.5
12:30 PM - 12:35 PM	03:10 PM - 03:15 PM	61.4	42.7	62.4	58.1
12:35 PM - 12:40 PM	03:15 PM - 03:20 PM	64.1	38.9	63.8	58.3
12:40 PM - 12:45 PM	03:20 PM - 03:25 PM	63.3	39.2	63.7	58.4
12:45 PM - 12:50 PM	03:25 PM - 03:30 PM	61.6	40.1	64.2	58.3
12:50 PM - 12:55 PM	03:30 PM - 03:35 PM	62.8	41.5	61.3	55.4
12:55 PM - 01:00 PM	03:35 PM - 03:40 PM	64.0	38.5	61.6	55.0
01:00 PM - 01:05 PM	03:40 PM - 03:45 PM	63.0	41.4	59.2	56.0
01:05 PM - 01:10 PM	03:45 PM - 03:50 PM	66.2	41.6	61.8	56.3
01:10 PM - 01:15 PM	03:50 PM - 03:55 PM	63.3	41.4	61.7	55.8
01:15 PM - 01:20 PM	03:55 PM - 04:00 PM	61.7	41.0	66.8	55.4
01:20 PM - 01:25 PM	04:00 PM - 04:05 PM	59.7	42.7	67.0	54.5
01:25 PM - 01:30 PM	04:05 PM - 04:10 PM	62.1	42.6	65.1	54.5
01:30 PM - 01:35 PM	04:10 PM - 04:15 PM	63.6	40.4	65.1	51.2
01:35 PM - 01:40 PM	04:15 PM - 04:20 PM	58.4	41.0	64.2	52.1
01:40 PM - 01:45 PM	04:20 PM - 04:25 PM	59.2	40.0	67.4	49.0
01:45 PM - 01:50 PM	04:25 PM - 04:30 PM	53.4	37.9	68.7	49.7
01:50 PM - 01:55 PM	04:30 PM - 04:35 PM	61.9	39.3	68.6	51.7
01:55 PM - 02:00 PM	04:35 PM - 04:40 PM	57.7	41.4	66.6	50.5
02:00 PM - 02:05 PM	04:40 PM - 04:45 PM	61.2	42.4	64.6	53.0
02:05 PM - 02:10 PM	04:45 PM - 04:50 PM	58.5	41.0	66.6	51.9
02:10 PM - 02:15 PM	04:50 PM - 04:55 PM	62.8	40.1	64.8	52.0
02:15 PM - 02:20 PM	04:55 PM - 05:00 PM	59.6	42.1	68.6	51.4
02:20 PM - 02:25 PM	05:00 PM - 05:05 PM	62.1	41.9	67.3	51.3
02:25 PM - 02:30 PM	05:05 PM - 05:10 PM	56.8	41.2	65.9	53.6
02:30 PM - 02:35 PM	05:10 PM - 05:15 PM	58.1	38.9	63.0	50.4
02:35 PM - 02:40 PM	05:15 PM - 05:20 PM	63.7	40.8	66.2	51.2

Approved by

Saranyuth Jitramont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534238-1

Page 2 of 3

Sample Number	22147442-9	Noise Level (Leq 5 min)	Dec 20, 2022	Leq	L90
Parameter				dB(A)	dB(A)
Location	พื้นที่ภายในโรงงาน 2 ส่วนตามรูป 15 (N2) (GPS 47P 733675, 1434009)				
Measurement Date	Dec 20 - Dec 21, 2022				
Measurement by	Siwit Ruangsom วาดินมูล 7-323-9-9475				
Sound Level meter	Serial No. 00472124				
Dec 20, 2022	Time	Leq	L90	Leq	L90
		dB(A)	dB(A)	dB(A)	dB(A)
06:00 PM - 06:05 PM	10:40 PM - 10:45 PM	64.8	53.6	58.0	53.5
06:05 PM - 06:10 PM	10:45 PM - 10:50 PM	62.0	52.7	54.9	53.4
06:10 PM - 06:15 PM	10:50 PM - 10:55 PM	63.3	55.9	53.9	53.4
06:15 PM - 06:20 PM	10:55 PM - 11:00 PM	59.9	54.9	61.6	53.3
06:20 PM - 06:25 PM	11:00 PM - 11:05 PM	65.2	52.9	54.9	53.4
06:25 PM - 06:30 PM	11:05 PM - 11:10 PM	66.7	52.9	56.5	53.2
06:30 PM - 06:35 PM	11:10 PM - 11:15 PM	59.4	48.2	56.8	53.2
06:35 PM - 06:40 PM	11:15 PM - 11:20 PM	59.8	50.1	57.5	53.5
06:40 PM - 06:45 PM	11:20 PM - 11:25 PM	68.6	50.0	57.2	52.0
06:45 PM - 06:50 PM	11:25 PM - 11:30 PM	58.8	49.2	59.0	49.6
06:50 PM - 06:55 PM	11:30 PM - 11:35 PM	62.3	50.3	54.6	49.2
06:55 PM - 07:00 PM	11:35 PM - 11:40 PM	57.4	48.0	51.0	46.2
07:00 PM - 07:05 PM	11:40 PM - 11:45 PM	55.2	48.9	53.5	47.9
07:05 PM - 07:10 PM	11:45 PM - 11:50 PM	58.7	49.3	52.1	49.3
07:10 PM - 07:15 PM	11:50 PM - 11:55 PM	59.0	48.4	51.9	50.6
07:15 PM - 07:20 PM	11:55 PM - 12:00 PM	60.2	50.7	57.5	48.6
07:20 PM - 07:25 PM	12:00 PM - 12:05 PM	59.0	52.9	57.9	51.8
07:25 PM - 07:30 PM	12:05 PM - 12:10 PM	57.3	52.1	54.1	52.4
07:30 PM - 07:35 PM	12:10 PM - 12:15 PM	62.6	51.8	54.0	52.1
07:35 PM - 07:40 PM	12:15 PM - 12:20 PM	58.6	50.7	53.5	52.6
07:40 PM - 07:45 PM	12:20 PM - 12:25 PM	56.2	52.1	53.3	52.3
07:45 PM - 07:50 PM	12:25 PM - 12:30 PM	56.6	51.2	56.0	49.0
07:50 PM - 07:55 PM	12:30 PM - 12:35 PM	56.8	50.3	53.8	50.0
07:55 PM - 08:00 PM	12:35 PM - 12:40 PM	66.2	49.4	54.4	53.6
08:00 PM - 08:05 PM	12:40 PM - 12:45 PM	56.3	46.1	56.4	53.8
08:05 PM - 08:10 PM	12:45 PM - 12:50 PM	55.7	46.9	59.1	54.9
08:10 PM - 08:15 PM	12:50 PM - 12:55 PM	54.9	47.1	64.6	53.9
08:15 PM - 08:20 PM	12:55 PM - 01:00 PM	58.1	48.7	58.5	53.6
08:20 PM - 08:25 PM	01:00 PM - 01:05 PM	58.4	52.8	54.1	54.6
08:25 PM - 08:30 PM	01:05 PM - 01:10 PM	59.6	54.3	57.0	51.8
08:30 PM - 08:35 PM	01:10 PM - 01:15 PM	65.8	54.6	53.4	52.3
08:35 PM - 08:40 PM	01:15 PM - 01:20 PM	58.4	51.6	53.9	52.1

Approved by

Saranyuth Jitramont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phak Daeng, Rayong Thailand 21140  
P/O : RJC(2)-030/65  
Project Name : Phak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534238-1

Page 3 of 3

Sample Number : 22147442-9  
Parameter : Noise Level (Leq 5 min)  
Location : หมู่บ้านวัง 2 ตำบลวัง 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 20 - Dec 21, 2022  
Measurement by : Shiwit Ruangsom Wittinunant 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 21, 2022	Leq dB(A)	L90 dB(A)	Dec 21, 2022	Time	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	51.3	42.3	06:40 AM - 06:45 AM	58.1	58.8	45.5
04:05 AM - 04:10 AM	55.2	41.8	06:45 AM - 06:50 AM	67.5	60.4	44.6
04:10 AM - 04:15 AM	54.3	41.9	06:50 AM - 06:55 AM	69.5	61.4	45.2
04:15 AM - 04:20 AM	53.2	41.9	06:55 AM - 07:00 AM	66.4	63.4	45.6
04:20 AM - 04:25 AM	54.2	40.7	07:00 AM - 07:05 AM	67.0	62.4	44.4
04:25 AM - 04:30 AM	51.0	42.2	07:05 AM - 07:10 AM	66.3	63.9	45.4
04:30 AM - 04:35 AM	60.7	42.6	07:10 AM - 07:15 AM	67.4	69.3	43.9
04:35 AM - 04:40 AM	60.3	42.6	07:15 AM - 07:20 AM	67.7	61.1	43.1
04:40 AM - 04:45 AM	57.1	44.2	07:20 AM - 07:25 AM	62.8	66.4	45.4
04:45 AM - 04:50 AM	57.1	41.9	07:25 AM - 07:30 AM	63.2	61.3	45.7
04:50 AM - 04:55 AM	58.3	41.2	07:30 AM - 07:35 AM	60.3	64.8	44.7
04:55 AM - 05:00 AM	55.5	41.2	07:35 AM - 07:40 AM	65.1	65.1	44.7
05:00 AM - 05:05 AM	58.6	42.7	07:40 AM - 07:45 AM	62.1	59.6	44.9
05:05 AM - 05:10 AM	60.8	47.4	07:45 AM - 07:50 AM	64.3	61.9	46.0
05:10 AM - 05:15 AM	59.8	44.5	07:50 AM - 07:55 AM	62.7	65.7	45.5
05:15 AM - 05:20 AM	61.6	46.5	07:55 AM - 08:00 AM	65.5	58.9	44.9
05:20 AM - 05:25 AM	64.6	49.3	08:00 AM - 08:05 AM	60.3	64.4	43.6
05:25 AM - 05:30 AM	62.0	47.6	08:05 AM - 08:10 AM	59.5	60.6	46.9
05:30 AM - 05:35 AM	63.6	47.8	08:10 AM - 08:15 AM	62.5	63.5	43.7
05:35 AM - 05:40 AM	64.0	48.8	08:15 AM - 08:20 AM	61.3	61.9	43.9
05:40 AM - 05:45 AM	64.3	48.8	08:20 AM - 08:25 AM	59.9	61.7	45.0
05:45 AM - 05:50 AM	65.9	48.1	08:25 AM - 08:30 AM	60.1	63.4	44.8
05:50 AM - 05:55 AM	67.1	49.2	08:30 AM - 08:35 AM	60.6	61.2	45.2
05:55 AM - 06:00 AM	65.4	51.8	08:35 AM - 08:40 AM	59.9	64.0	47.3
06:00 AM - 06:05 AM	67.1	49.4	08:40 AM - 08:45 AM	60.2	64.3	42.3
06:05 AM - 06:10 AM	67.9	51.3	08:45 AM - 08:50 AM	64.9	64.9	45.3
06:10 AM - 06:15 AM	68.2	52.0	08:50 AM - 08:55 AM	58.7	57.8	44.1
06:15 AM - 06:20 AM	68.2	55.0	08:55 AM - 09:00 AM	59.9	65.0	45.6
06:20 AM - 06:25 AM	68.0	56.3	09:00 AM - 09:05 AM	57.9	62.2	42.3
06:25 AM - 06:30 AM	68.6	53.9	09:05 AM - 09:10 AM	55.1	64.2	43.2
06:30 AM - 06:35 AM	67.1	51.6	09:10 AM - 09:15 AM	63.0	59.3	38.4
06:35 AM - 06:40 AM	68.2	56.7	09:15 AM - 09:20 AM	65.5	64.6	44.2

The above results are valid only for the sub-sampled period. It is recommended that the results be used for comparison purposes only. ALS Laboratory (Thailand) Co., Ltd. is not responsible for the results of the test if the test is not reproduced in full.

Approved by

Saranyuth Jitranont  
Assistant General Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. AN ALS LIMITED COMPANY

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phak Daeng, Rayong Thailand 21140  
P/O : RJC(2)-030/65  
Project Name : Phak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534239-1

Page 1 of 2

Sample Number : 22147442-10  
Parameter : Noise Level (Leq 5 min)  
Location : หมู่บ้านวัง 2 ตำบลวัง 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 21 - Dec 22, 2022  
Measurement by : Shiwit Ruangsom Wittinunant 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 21, 2022	Leq dB(A)	L90 dB(A)	Dec 21, 2022	Time	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	63.0	43.5	02:40 PM - 02:45 PM	65.2	42.0	48.8
12:05 PM - 12:10 PM	61.4	44.4	02:45 PM - 02:50 PM	55.1	40.0	47.9
12:10 PM - 12:15 PM	62.4	44.6	02:50 PM - 02:55 PM	58.9	40.9	55.1
12:15 PM - 12:20 PM	62.6	44.3	02:55 PM - 03:00 PM	63.5	41.7	52.9
12:20 PM - 12:25 PM	59.7	42.8	03:00 PM - 03:05 PM	57.8	40.1	54.6
12:25 PM - 12:30 PM	62.8	44.7	03:05 PM - 03:10 PM	58.1	39.8	57.0
12:30 PM - 12:35 PM	60.5	43.1	03:10 PM - 03:15 PM	60.7	39.7	58.8
12:35 PM - 12:40 PM	61.4	43.7	03:15 PM - 03:20 PM	63.1	42.7	58.9
12:40 PM - 12:45 PM	64.1	40.6	03:20 PM - 03:25 PM	63.2	41.7	58.1
12:45 PM - 12:50 PM	58.3	42.8	03:25 PM - 03:30 PM	62.4	44.1	57.2
12:50 PM - 12:55 PM	63.5	45.9	03:30 PM - 03:35 PM	62.4	44.1	56.8
12:55 PM - 01:00 PM	57.2	40.8	03:35 PM - 03:40 PM	60.1	43.4	54.0
01:00 PM - 01:05 PM	63.9	45.4	03:40 PM - 03:45 PM	58.5	45.1	54.0
01:05 PM - 01:10 PM	59.9	42.7	03:45 PM - 03:50 PM	63.3	45.5	54.3
01:10 PM - 01:15 PM	62.4	43.6	03:50 PM - 03:55 PM	64.0	46.2	53.8
01:15 PM - 01:20 PM	58.7	49.7	03:55 PM - 04:00 PM	63.1	46.2	53.9
01:20 PM - 01:25 PM	58.8	43.6	04:00 PM - 04:05 PM	66.0	46.1	53.4
01:25 PM - 01:30 PM	58.4	42.4	04:05 PM - 04:10 PM	64.5	45.7	45.9
01:30 PM - 01:35 PM	57.4	41.5	04:10 PM - 04:15 PM	63.3	46.8	53.0
01:35 PM - 01:40 PM	66.6	44.6	04:15 PM - 04:20 PM	65.9	52.3	52.8
01:40 PM - 01:45 PM	64.1	43.0	04:20 PM - 04:25 PM	64.6	51.6	52.1
01:45 PM - 01:50 PM	61.1	41.0	04:25 PM - 04:30 PM	65.6	51.6	51.5
01:50 PM - 01:55 PM	61.0	41.0	04:30 PM - 04:35 PM	63.6	49.1	51.5
01:55 PM - 02:00 PM	61.8	42.0	04:35 PM - 04:40 PM	66.0	49.1	54.3
02:00 PM - 02:05 PM	63.0	41.1	04:40 PM - 04:45 PM	65.9	49.1	51.7
02:05 PM - 02:10 PM	62.2	40.8	04:45 PM - 04:50 PM	66.4	49.4	52.2
02:10 PM - 02:15 PM	59.6	40.4	04:50 PM - 04:55 PM	67.2	48.9	51.3
02:15 PM - 02:20 PM	64.2	41.1	04:55 PM - 05:00 PM	63.2	47.7	43.7
02:20 PM - 02:25 PM	62.6	42.4	05:00 PM - 05:05 PM	65.0	47.9	48.8
02:25 PM - 02:30 PM	66.1	39.8	05:05 PM - 05:10 PM	63.4	47.3	46.6
02:30 PM - 02:35 PM	61.8	40.4	05:10 PM - 05:15 PM	62.3	49.9	47.8
02:35 PM - 02:40 PM	66.9	42.1	05:15 PM - 05:20 PM	64.9	51.7	48.5

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Approved by

Saranyuth Jitranont  
Assistant General Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. AN ALS LIMITED COMPANY

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RIGHT SOLUTIONS IN RIGHT PLACE



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Plak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Plak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534239-1

Page 2 of 3

Sample Number : 22147442-10  
Parameter : Noise Level (Leq 5 min)  
Location : หมู่บ้านวัง 2 ตำบลวัง 15 (N2) (GPS: 47P 733675, 1434009)  
Measurement Date : Dec 21 - Dec 22, 2022  
Measurement by : Srivut Ruangsom vutduanai 1-323-q-9475  
Sound Level meter : Serial No. 00672124

Dec 21, 2022	Leq dB(A)	L90 dB(A)	Dec 21 - Dec 22, 2022	Time	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	65.2	49.7	10:40 PM - 10:45 PM	57.3	46.8	43.6
08:05 PM - 08:10 PM	64.3	49.7	10:45 PM - 10:50 PM	57.3	46.8	44.0
08:10 PM - 08:15 PM	59.9	50.1	10:50 PM - 10:55 PM	58.2	47.1	44.9
08:15 PM - 08:20 PM	59.8	50.1	10:55 PM - 11:00 PM	56.2	47.3	45.0
08:20 PM - 08:25 PM	59.1	49.6	11:00 PM - 11:05 PM	50.7	47.2	45.1
08:25 PM - 08:30 PM	55.9	49.1	11:05 PM - 11:10 PM	47.9	47.2	46.1
08:30 PM - 08:35 PM	62.5	49.2	11:10 PM - 11:15 PM	48.2	47.0	47.0
08:35 PM - 08:40 PM	62.5	49.2	11:15 PM - 11:20 PM	49.6	45.5	46.7
08:40 PM - 08:45 PM	57.5	49.6	11:20 PM - 11:25 PM	55.7	45.7	46.0
08:45 PM - 08:50 PM	58.1	48.9	11:25 PM - 11:30 PM	56.8	45.4	45.9
08:50 PM - 08:55 PM	57.3	47.8	11:30 PM - 11:35 PM	55.8	46.2	45.7
08:55 PM - 09:00 PM	60.4	48.3	11:35 PM - 11:40 PM	48.5	46.1	45.3
09:00 PM - 09:05 PM	59.7	48.6	11:40 PM - 11:45 PM	52.5	45.1	44.4
09:05 PM - 09:10 PM	56.6	48.8	11:45 PM - 11:50 PM	50.8	43.8	41.0
09:10 PM - 09:15 PM	55.0	48.0	11:50 PM - 11:55 PM	47.3	43.9	40.2
09:15 PM - 09:20 PM	62.0	47.9	11:55 PM - 12:00 AM	55.8	44.3	43.8
09:20 PM - 09:25 PM	58.8	48.6	12:00 AM - 12:05 AM	51.5	44.3	40.3
09:25 PM - 09:30 PM	58.2	48.3	12:05 AM - 12:10 AM	69.7	44.2	45.6
09:30 PM - 09:35 PM	55.0	48.2	12:10 AM - 12:15 AM	45.9	44.3	45.0
09:35 PM - 09:40 PM	56.4	47.2	12:15 AM - 12:20 AM	55.4	45.6	44.5
09:40 PM - 09:45 PM	54.3	47.6	12:20 AM - 12:25 AM	49.6	45.1	46.8
09:45 PM - 09:50 PM	55.9	48.5	12:25 AM - 12:30 AM	52.3	45.1	46.5
09:50 PM - 09:55 PM	60.1	48.4	12:30 AM - 12:35 AM	45.4	41.9	43.3
09:55 PM - 10:00 PM	53.9	48.5	12:35 AM - 12:40 AM	50.5	44.6	43.5
10:00 PM - 10:05 PM	54.6	47.8	12:40 AM - 12:45 AM	48.5	44.7	43.5
10:05 PM - 10:10 PM	58.7	47.3	12:45 AM - 12:50 AM	48.6	45.6	43.3
10:10 PM - 10:15 PM	57.8	46.8	12:50 AM - 12:55 AM	47.0	46.0	43.8
10:15 PM - 10:20 PM	54.7	45.5	12:55 AM - 01:00 AM	59.0	45.5	43.6
10:20 PM - 10:25 PM	57.2	45.8	01:00 AM - 01:05 AM	48.3	44.5	43.9
10:25 PM - 10:30 PM	61.0	45.3	01:05 AM - 01:10 AM	46.4	44.9	45.6
10:30 PM - 10:35 PM	51.8	45.4	01:10 AM - 01:15 AM	48.0	45.7	45.6
10:35 PM - 10:40 PM	46.5	45.3	01:15 AM - 01:20 AM	47.1	45.5	42.5

Approved by

Sirayuth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Plak Daeng, Rayong Thailand 21140  
P/O : RIN(2)-030/65  
Project Name : Plak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534239-1

Page 3 of 3

Sample Number : 22147442-10  
Parameter : Noise Level (Leq 5 min)  
Location : หมู่บ้านวัง 2 ตำบลวัง 15 (N2) (GPS: 47P 733675, 1434009)  
Measurement Date : Dec 21 - Dec 22, 2022  
Measurement by : Srivut Ruangsom vutduanai 1-323-q-9475  
Sound Level meter : Serial No. 00672124

Dec 22, 2022	Leq dB(A)	L90 dB(A)	Dec 22, 2022	Time	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	48.8	45.9	06:40 AM - 06:45 AM	69.3	56.1	59.7
04:05 AM - 04:10 AM	53.6	45.1	06:45 AM - 06:50 AM	68.0	56.6	54.9
04:10 AM - 04:15 AM	54.8	45.0	06:50 AM - 06:55 AM	65.5	54.6	42.5
04:15 AM - 04:20 AM	53.0	44.9	06:55 AM - 07:00 AM	67.6	55.0	43.0
04:20 AM - 04:25 AM	59.2	45.0	07:00 AM - 07:05 AM	67.5	50.6	45.1
04:25 AM - 04:30 AM	57.7	44.7	07:05 AM - 07:10 AM	66.7	50.3	42.5
04:30 AM - 04:35 AM	54.5	45.7	07:10 AM - 07:15 AM	67.7	46.8	41.6
04:35 AM - 04:40 AM	54.6	44.6	07:15 AM - 07:20 AM	64.1	46.9	46.9
04:40 AM - 04:45 AM	59.5	45.2	07:20 AM - 07:25 AM	68.2	51.0	42.5
04:45 AM - 04:50 AM	60.7	45.5	07:25 AM - 07:30 AM	61.8	48.3	42.4
04:50 AM - 04:55 AM	58.9	45.9	07:30 AM - 07:35 AM	68.0	45.5	59.7
04:55 AM - 05:00 AM	56.5	45.5	07:35 AM - 07:40 AM	63.4	47.4	42.4
05:00 AM - 05:05 AM	56.9	44.7	07:40 AM - 07:45 AM	64.1	46.4	42.4
05:05 AM - 05:10 AM	55.8	41.9	07:45 AM - 07:50 AM	65.1	57.6	46.5
05:10 AM - 05:15 AM	59.1	44.0	07:50 AM - 07:55 AM	63.6	49.1	50.1
05:15 AM - 05:20 AM	62.1	45.5	07:55 AM - 08:00 AM	62.9	47.3	42.0
05:20 AM - 05:25 AM	60.1	47.7	08:00 AM - 08:05 AM	64.0	48.4	47.2
05:25 AM - 05:30 AM	65.3	47.4	08:05 AM - 08:10 AM	61.2	47.0	47.5
05:30 AM - 05:35 AM	62.6	48.5	08:10 AM - 08:15 AM	61.9	44.6	42.4
05:35 AM - 05:40 AM	64.9	48.2	08:15 AM - 08:20 AM	59.1	45.8	44.8
05:40 AM - 05:45 AM	63.2	49.5	08:20 AM - 08:25 AM	56.3	45.3	42.8
05:45 AM - 05:50 AM	69.3	50.3	08:25 AM - 08:30 AM	61.3	43.8	42.7
05:50 AM - 05:55 AM	67.9	50.5	08:30 AM - 08:35 AM	61.1	42.9	46.6
05:55 AM - 06:00 AM	66.7	52.1	08:35 AM - 08:40 AM	62.8	44.8	46.5
06:00 AM - 06:05 AM	65.1	51.2	08:40 AM - 08:45 AM	60.6	44.5	44.7
06:05 AM - 06:10 AM	68.3	52.4	08:45 AM - 08:50 AM	59.4	41.1	57.3
06:10 AM - 06:15 AM	65.7	51.7	08:50 AM - 08:55 AM	60.8	42.9	43.8
06:15 AM - 06:20 AM	69.6	55.7	08:55 AM - 09:00 AM	63.0	41.9	41.3
06:20 AM - 06:25 AM	68.7	54.3	09:00 AM - 09:05 AM	61.9	41.3	39.6
06:25 AM - 06:30 AM	66.9	56.6	09:05 AM - 09:10 AM	58.6	42.6	39.3
06:30 AM - 06:35 AM	67.3	55.0	09:10 AM - 09:15 AM	62.4	43.1	41.0
06:35 AM - 06:40 AM	68.3	54.3	09:15 AM - 09:20 AM	62.9	41.0	60.2

The above results are valid only for the environmental sample(s) as indicated in this report. The test results may be reproduced in any form without written consent from ALS Laboratory Group (Thailand) Co., Ltd. Any use of the results for other purposes is not recommended and is not covered by the report.

Approved by

Sirayuth Jitranont  
Assistant General Manager





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINC/030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534240-1

Page 3 of 3

Sample Number : 22147442-11  
Parameter : Noise Level (Leq 5 min)  
Location : บ้านใหม่ หมู่ 2 ตำบลบึง 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 23 - Dec 23, 2022  
Measurement by : Sirvit Ruangsom วิมลคุณาภ 1-323-9-9475  
Sound Level meter : Serial No. 00472124

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 23, 2022	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	50.7	42.3	06:40 AM - 06:45 AM	67.2	52.4
04:05 AM - 04:10 AM	51.3	42.0	06:45 AM - 06:50 AM	67.0	51.2
04:10 AM - 04:15 AM	49.5	41.7	06:50 AM - 06:55 AM	68.4	55.4
04:15 AM - 04:20 AM	55.3	41.8	06:55 AM - 07:00 AM	70.0	57.6
04:20 AM - 04:25 AM	60.1	44.4	07:00 AM - 07:05 AM	66.0	54.1
04:25 AM - 04:30 AM	55.0	43.2	07:05 AM - 07:10 AM	66.8	50.9
04:30 AM - 04:35 AM	55.9	44.0	07:10 AM - 07:15 AM	65.3	50.2
04:35 AM - 04:40 AM	56.6	42.5	07:15 AM - 07:20 AM	65.1	44.8
04:40 AM - 04:45 AM	58.0	42.8	07:20 AM - 07:25 AM	62.2	46.8
04:45 AM - 04:50 AM	58.6	43.3	07:25 AM - 07:30 AM	64.0	43.2
04:50 AM - 04:55 AM	60.6	43.9	07:30 AM - 07:35 AM	61.9	46.6
04:55 AM - 05:00 AM	58.5	44.0	07:35 AM - 07:40 AM	69.2	45.9
05:00 AM - 05:05 AM	57.8	44.3	07:40 AM - 07:45 AM	66.3	51.7
05:05 AM - 05:10 AM	60.1	45.6	07:45 AM - 07:50 AM	65.4	52.9
05:10 AM - 05:15 AM	61.6	46.6	07:50 AM - 07:55 AM	63.6	53.6
05:15 AM - 05:20 AM	61.2	46.5	07:55 AM - 08:00 AM	60.6	40.8
05:20 AM - 05:25 AM	60.6	45.5	08:00 AM - 08:05 AM	63.4	43.9
05:25 AM - 05:30 AM	64.2	47.3	08:05 AM - 08:10 AM	67.5	42.6
05:30 AM - 05:35 AM	63.3	47.8	08:10 AM - 08:15 AM	57.9	41.9
05:35 AM - 05:40 AM	64.2	49.7	08:15 AM - 08:20 AM	56.3	41.2
05:40 AM - 05:45 AM	65.7	50.9	08:20 AM - 08:25 AM	59.6	40.1
05:45 AM - 05:50 AM	66.7	50.6	08:25 AM - 08:30 AM	62.3	40.0
05:50 AM - 05:55 AM	67.4	51.9	08:30 AM - 08:35 AM	61.1	41.9
05:55 AM - 06:00 AM	67.4	52.2	08:35 AM - 08:40 AM	62.7	42.4
06:00 AM - 06:05 AM	64.1	51.0	08:40 AM - 08:45 AM	62.6	43.2
06:05 AM - 06:10 AM	68.3	54.9	08:45 AM - 08:50 AM	59.7	42.1
06:10 AM - 06:15 AM	67.6	53.7	08:50 AM - 08:55 AM	61.3	42.8
06:15 AM - 06:20 AM	68.7	58.0	08:55 AM - 09:00 AM	60.3	40.6
06:20 AM - 06:25 AM	69.1	52.5	09:00 AM - 09:05 AM	60.0	40.8
06:25 AM - 06:30 AM	67.9	55.4	09:05 AM - 09:10 AM	64.3	40.8
06:30 AM - 06:35 AM	67.6	57.1	09:10 AM - 09:15 AM	63.4	43.9
06:35 AM - 06:40 AM	68.0	53.7	09:15 AM - 09:20 AM	69.8	51.4

The above results are valid only for the analyzed samples and are not to be used for any other purpose. The results are subject to the accuracy of the equipment used and the skill of the operator. A Laboratory Group (Thailand) stamp is required on the report for the results to be valid.

Approved by  
Saranyuth Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RINC/030/65  
Project Name : Pluak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534241-1

Page 1 of 3

Sample Number : 22147442-12  
Parameter : Noise Level (Leq 5 min)  
Location : บ้านใหม่ หมู่ 2 ตำบลบึง 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 23 - Dec 24, 2022  
Measurement by : Sirvit Ruangsom วิมลคุณาภ 1-323-9-9475  
Sound Level meter : Serial No. 00472124

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 23, 2022	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	66.8	43.1	02:40 PM - 02:45 PM	66.3	43.0
12:05 PM - 12:10 PM	66.9	51.8	02:45 PM - 02:50 PM	56.0	40.4
12:10 PM - 12:15 PM	62.7	41.5	02:50 PM - 02:55 PM	59.8	40.6
12:15 PM - 12:20 PM	59.7	40.4	02:55 PM - 03:00 PM	61.1	41.2
12:20 PM - 12:25 PM	61.0	40.0	03:00 PM - 03:05 PM	57.8	40.3
12:25 PM - 12:30 PM	60.7	42.8	03:05 PM - 03:10 PM	61.7	40.5
12:30 PM - 12:35 PM	62.5	44.7	03:10 PM - 03:15 PM	69.7	45.2
12:35 PM - 12:40 PM	65.0	42.0	03:15 PM - 03:20 PM	69.3	43.1
12:40 PM - 12:45 PM	58.2	38.5	03:20 PM - 03:25 PM	63.4	42.8
12:45 PM - 12:50 PM	62.3	40.5	03:25 PM - 03:30 PM	63.8	43.3
12:50 PM - 12:55 PM	65.0	41.3	03:30 PM - 03:35 PM	65.1	44.9
12:55 PM - 01:00 PM	58.9	40.3	03:35 PM - 03:40 PM	61.1	43.2
01:00 PM - 01:05 PM	57.3	38.7	03:40 PM - 03:45 PM	64.9	40.8
01:05 PM - 01:10 PM	59.5	39.5	03:45 PM - 03:50 PM	63.1	42.9
01:10 PM - 01:15 PM	59.1	41.2	03:50 PM - 03:55 PM	63.4	44.6
01:15 PM - 01:20 PM	57.4	39.9	03:55 PM - 04:00 PM	63.5	47.5
01:20 PM - 01:25 PM	58.8	39.3	04:00 PM - 04:05 PM	65.1	48.2
01:25 PM - 01:30 PM	57.3	42.2	04:05 PM - 04:10 PM	66.2	51.7
01:30 PM - 01:35 PM	57.3	39.8	04:10 PM - 04:15 PM	63.5	48.2
01:35 PM - 01:40 PM	66.1	41.0	04:15 PM - 04:20 PM	65.6	50.8
01:40 PM - 01:45 PM	63.5	40.8	04:20 PM - 04:25 PM	68.0	55.5
01:45 PM - 01:50 PM	57.0	40.7	04:25 PM - 04:30 PM	66.7	55.7
01:50 PM - 01:55 PM	59.3	40.3	04:30 PM - 04:35 PM	67.3	52.6
01:55 PM - 02:00 PM	62.8	41.6	04:35 PM - 04:40 PM	64.7	50.1
02:00 PM - 02:05 PM	64.0	40.0	04:40 PM - 04:45 PM	62.8	49.4
02:05 PM - 02:10 PM	57.7	39.8	04:45 PM - 04:50 PM	64.8	48.4
02:10 PM - 02:15 PM	63.3	40.6	04:50 PM - 04:55 PM	68.0	49.6
02:15 PM - 02:20 PM	58.0	42.3	04:55 PM - 05:00 PM	65.0	49.1
02:20 PM - 02:25 PM	60.9	46.5	05:00 PM - 05:05 PM	64.2	48.9
02:25 PM - 02:30 PM	62.1	41.5	05:05 PM - 05:10 PM	64.7	49.8
02:30 PM - 02:35 PM	60.3	43.9	05:10 PM - 05:15 PM	65.4	49.2
02:35 PM - 02:40 PM	63.0	46.9	05:15 PM - 05:20 PM	64.6	49.8

The above results are valid only for the analyzed samples and are not to be used for any other purpose. The results are subject to the accuracy of the equipment used and the skill of the operator. A Laboratory Group (Thailand) stamp is required on the report for the results to be valid.

Approved by

Saranyuth Jitranont  
Assistant General Manager





## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
S4/S Moo 1, Map Yang Phon, Muak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Muak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534241-1

Page 2 of 3

Sample Number : 22147442-12  
Parameter : Noise Level (Leq 5 min)  
Location : ถนนพหลโยธิน กม 2 ข้ามถนน 15 (M2) (GPS 47P 733675, 1494009)  
Measurement Date : Dec 23 - Dec 24, 2022  
Measurement by : Sirvit Ruangsom wittanunat 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 23, 2022	Leq dB(A)	L90 dB(A)	Dec 24, 2022	Leq dB(A)	L90 dB(A)
08:00 PM - 08:05 PM	64.8	50.0	10:40 PM - 10:45 PM	53.9	43.6
08:05 PM - 08:10 PM	60.7	49.3	10:45 PM - 10:50 PM	48.7	43.9
08:10 PM - 08:15 PM	60.8	49.5	10:50 PM - 10:55 PM	51.7	45.3
08:15 PM - 08:20 PM	61.5	46.3	10:55 PM - 11:00 PM	54.4	43.0
08:20 PM - 08:25 PM	63.4	45.7	11:00 PM - 11:05 PM	49.3	43.9
08:25 PM - 08:30 PM	67.0	57.7	11:05 PM - 11:10 PM	61.5	44.6
08:30 PM - 08:35 PM	60.4	56.2	11:10 PM - 11:15 PM	51.2	44.6
08:35 PM - 08:40 PM	60.7	56.1	11:15 PM - 11:20 PM	57.6	43.9
08:40 PM - 08:45 PM	62.6	56.4	11:20 PM - 11:25 PM	55.8	44.4
08:45 PM - 08:50 PM	59.0	56.0	11:25 PM - 11:30 PM	49.5	43.7
08:50 PM - 08:55 PM	59.2	56.0	11:30 PM - 11:35 PM	57.1	45.0
08:55 PM - 09:00 PM	57.8	56.0	11:35 PM - 11:40 PM	58.5	44.6
09:00 PM - 09:05 PM	63.4	56.1	11:40 PM - 11:45 PM	47.6	44.7
09:05 PM - 09:10 PM	59.5	56.1	11:45 PM - 11:50 PM	55.6	44.9
09:10 PM - 09:15 PM	59.5	56.1	11:50 PM - 11:55 PM	51.0	44.1
09:15 PM - 09:20 PM	61.6	56.4	11:55 PM - 12:00 AM	62.0	44.8
09:20 PM - 09:25 PM	60.9	56.1	12:00 AM - 12:05 AM	48.8	44.1
09:25 PM - 09:30 PM	57.7	53.9	12:05 AM - 12:10 AM	45.4	43.5
09:30 PM - 09:35 PM	58.2	47.4	12:10 AM - 12:15 AM	44.4	42.7
09:35 PM - 09:40 PM	54.7	49.9	12:15 AM - 12:20 AM	46.6	42.5
09:40 PM - 09:45 PM	57.2	50.9	12:20 AM - 12:25 AM	50.0	43.2
09:45 PM - 09:50 PM	64.1	50.5	12:25 AM - 12:30 AM	53.8	43.1
09:50 PM - 09:55 PM	54.9	48.4	12:30 AM - 12:35 AM	47.9	43.3
09:55 PM - 10:00 PM	54.3	49.6	12:35 AM - 12:40 AM	43.4	42.5
10:00 PM - 10:05 PM	55.9	47.5	12:40 AM - 12:45 AM	52.9	43.1
10:05 PM - 10:10 PM	51.2	44.9	12:45 AM - 12:50 AM	43.3	42.8
10:10 PM - 10:15 PM	51.7	45.2	12:50 AM - 12:55 AM	53.8	43.0
10:15 PM - 10:20 PM	56.1	44.5	12:55 AM - 01:00 AM	52.0	42.9
10:20 PM - 10:25 PM	50.8	45.9	01:00 AM - 01:05 AM	49.8	42.0
10:25 PM - 10:30 PM	58.8	45.5	01:05 AM - 01:10 AM	52.2	42.7
10:30 PM - 10:35 PM	57.7	44.8	01:10 AM - 01:15 AM	52.2	42.4
10:35 PM - 10:40 PM	51.1	43.7	01:15 AM - 01:20 AM	49.0	42.3

The above results are valid for the period specified and are not to be used for any other purpose without the written consent of the Laboratory. ALS Laboratory Group (Thailand) Ltd. strongly recommends that this report is not reproduced except in full.

Approved by  
Siravit Jitranont  
Assistant General Manager

Signature

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
S4/S Moo 1, Map Yang Phon, Muak Daeng, Rayong Thailand 21140  
P/O : RUN(2)-030/65  
Project Name : Muak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534241-1

Page 2 of 3

Sample Number : 22147442-12  
Parameter : Noise Level (Leq 5 min)  
Location : ถนนพหลโยธิน กม 2 ข้ามถนน 15 (M2) (GPS 47P 733675, 1494009)  
Measurement Date : Dec 23 - Dec 24, 2022  
Measurement by : Sirvit Ruangsom wittanunat 1-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 24, 2022	Leq dB(A)	L90 dB(A)	Dec 24, 2022	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	57.1	42.2	06:40 AM - 06:45 AM	66.5	52.2
04:05 AM - 04:10 AM	65.3	42.8	06:45 AM - 06:50 AM	67.8	51.4
04:10 AM - 04:15 AM	54.5	42.2	06:50 AM - 06:55 AM	68.6	51.3
04:15 AM - 04:20 AM	54.0	42.5	06:55 AM - 07:00 AM	69.4	49.8
04:20 AM - 04:25 AM	58.0	44.7	07:00 AM - 07:05 AM	65.4	47.6
04:25 AM - 04:30 AM	51.6	42.0	07:05 AM - 07:10 AM	68.2	53.2
04:30 AM - 04:35 AM	55.4	42.4	07:10 AM - 07:15 AM	66.3	48.2
04:35 AM - 04:40 AM	57.8	42.7	07:15 AM - 07:20 AM	62.5	44.7
04:40 AM - 04:45 AM	55.0	42.8	07:20 AM - 07:25 AM	65.4	43.1
04:45 AM - 04:50 AM	58.2	42.0	07:25 AM - 07:30 AM	62.9	45.5
04:50 AM - 04:55 AM	57.1	43.0	07:30 AM - 07:35 AM	64.9	48.1
04:55 AM - 05:00 AM	59.2	43.4	07:35 AM - 07:40 AM	62.4	47.3
05:00 AM - 05:05 AM	62.7	43.3	07:40 AM - 07:45 AM	62.9	45.5
05:05 AM - 05:10 AM	59.9	44.0	07:45 AM - 07:50 AM	63.8	47.7
05:10 AM - 05:15 AM	60.5	42.8	07:50 AM - 07:55 AM	62.6	43.7
05:15 AM - 05:20 AM	61.5	45.4	07:55 AM - 08:00 AM	64.6	43.3
05:20 AM - 05:25 AM	63.6	45.2	08:00 AM - 08:05 AM	64.1	48.0
05:25 AM - 05:30 AM	63.6	45.3	08:05 AM - 08:10 AM	61.1	44.5
05:30 AM - 05:35 AM	66.2	46.0	08:10 AM - 08:15 AM	60.4	44.6
05:35 AM - 05:40 AM	63.0	48.1	08:15 AM - 08:20 AM	62.2	45.3
05:40 AM - 05:45 AM	62.2	47.3	08:20 AM - 08:25 AM	59.7	44.2
05:45 AM - 05:50 AM	62.7	45.7	08:25 AM - 08:30 AM	63.1	44.6
05:50 AM - 05:55 AM	60.9	44.3	08:30 AM - 08:35 AM	63.7	44.9
05:55 AM - 06:00 AM	63.9	46.7	08:35 AM - 08:40 AM	60.1	42.8
06:00 AM - 06:05 AM	66.0	46.5	08:40 AM - 08:45 AM	62.2	41.5
06:05 AM - 06:10 AM	64.7	50.8	08:45 AM - 08:50 AM	61.3	42.9
06:10 AM - 06:15 AM	66.7	52.0	08:50 AM - 08:55 AM	64.3	44.1
06:15 AM - 06:20 AM	68.5	50.3	08:55 AM - 09:00 AM	60.6	44.3
06:20 AM - 06:25 AM	67.4	51.2	09:00 AM - 09:05 AM	59.5	42.4
06:25 AM - 06:30 AM	67.3	54.0	09:05 AM - 09:10 AM	65.3	44.6
06:30 AM - 06:35 AM	67.0	50.4	09:10 AM - 09:15 AM	58.8	43.9
06:35 AM - 06:40 AM	68.5	55.4	09:15 AM - 09:20 AM	64.0	43.7

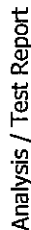
The above results are valid for the period specified and are not to be used for any other purpose without the written consent of the Laboratory. ALS Laboratory Group (Thailand) Ltd. strongly recommends that this report is not reproduced except in full.

Approved by  
Siravit Jitranont  
Assistant General Manager

Signature

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Date Received :Dec 27, 2022  
Date Reported :Jan 04, 2023  
Report Number : 2534242-1

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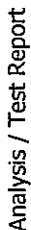
49.0

Approved by \_\_\_\_\_

Assistant General Manager

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Page 2 of 3

54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140  
P/O : RJN(2)-030/65  
Project Name : Pluak Daeng

**Project Location :**

## 41.6

Approved by

Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phrak Daeng, Rayong Thailand 21140  
P/O : RUK(2)-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2534242-1

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Sample Number : 22147442-13  
Noise Level (Leq 5 min)  
Location : หมู่บ้านในวัง 2 ถนนสุขุมวิท 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 24 - Dec 25, 2022  
Measurement by : Sirwit Ruangsom watthanasri 3-323-9-9475  
Sound Level meter : Serial No. 00472124

Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)	Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)
04:00 AM - 04:05 AM	04:00 AM - 04:05 AM	45.8	40.2	06:40 AM - 06:45 AM	06:40 AM - 06:45 AM	63.6	46.4
04:05 AM - 04:10 AM	04:05 AM - 04:10 AM	52.3	42.5	06:45 AM - 06:50 AM	06:45 AM - 06:50 AM	62.5	43.7
04:10 AM - 04:15 AM	04:10 AM - 04:15 AM	57.9	41.8	06:50 AM - 06:55 AM	06:50 AM - 06:55 AM	64.7	45.4
04:15 AM - 04:20 AM	04:15 AM - 04:20 AM	54.3	42.0	06:55 AM - 07:00 AM	06:55 AM - 07:00 AM	60.7	43.5
04:20 AM - 04:25 AM	04:20 AM - 04:25 AM	50.0	42.5	07:00 AM - 07:05 AM	07:00 AM - 07:05 AM	60.3	42.9
04:25 AM - 04:30 AM	04:25 AM - 04:30 AM	53.3	41.9	07:05 AM - 07:10 AM	07:05 AM - 07:10 AM	64.8	44.0
04:30 AM - 04:35 AM	04:30 AM - 04:35 AM	56.7	42.6	07:10 AM - 07:15 AM	07:10 AM - 07:15 AM	61.9	43.8
04:35 AM - 04:40 AM	04:35 AM - 04:40 AM	53.1	41.7	07:15 AM - 07:20 AM	07:15 AM - 07:20 AM	60.1	45.1
04:40 AM - 04:45 AM	04:40 AM - 04:45 AM	52.7	41.7	07:20 AM - 07:25 AM	07:20 AM - 07:25 AM	61.8	45.6
04:45 AM - 04:50 AM	04:45 AM - 04:50 AM	52.6	41.7	07:25 AM - 07:30 AM	07:25 AM - 07:30 AM	64.3	44.1
04:50 AM - 04:55 AM	04:50 AM - 04:55 AM	56.4	41.9	07:30 AM - 07:35 AM	07:30 AM - 07:35 AM	63.6	44.6
04:55 AM - 05:00 AM	04:55 AM - 05:00 AM	56.0	41.8	07:35 AM - 07:40 AM	07:35 AM - 07:40 AM	63.8	46.3
05:00 AM - 05:05 AM	05:00 AM - 05:05 AM	54.0	41.9	07:40 AM - 07:45 AM	07:40 AM - 07:45 AM	64.5	47.9
05:05 AM - 05:10 AM	05:05 AM - 05:10 AM	56.4	41.6	07:45 AM - 07:50 AM	07:45 AM - 07:50 AM	61.7	47.2
05:10 AM - 05:15 AM	05:10 AM - 05:15 AM	55.9	41.0	07:50 AM - 07:55 AM	07:50 AM - 07:55 AM	61.8	46.8
05:15 AM - 05:20 AM	05:15 AM - 05:20 AM	57.1	41.9	07:55 AM - 08:00 AM	07:55 AM - 08:00 AM	63.4	46.7
05:20 AM - 05:25 AM	05:20 AM - 05:25 AM	56.5	45.0	08:00 AM - 08:05 AM	08:00 AM - 08:05 AM	62.0	47.8
05:25 AM - 05:30 AM	05:25 AM - 05:30 AM	62.4	44.6	08:05 AM - 08:10 AM	08:05 AM - 08:10 AM	65.8	46.7
05:30 AM - 05:35 AM	05:30 AM - 05:35 AM	59.1	44.3	08:10 AM - 08:15 AM	08:10 AM - 08:15 AM	64.3	50.1
05:35 AM - 05:40 AM	05:35 AM - 05:40 AM	56.1	43.4	08:15 AM - 08:20 AM	08:15 AM - 08:20 AM	61.2	47.9
05:40 AM - 05:45 AM	05:40 AM - 05:45 AM	60.5	43.9	08:20 AM - 08:25 AM	08:20 AM - 08:25 AM	63.5	49.6
05:45 AM - 05:50 AM	05:45 AM - 05:50 AM	59.3	43.6	08:25 AM - 08:30 AM	08:25 AM - 08:30 AM	63.7	49.8
05:50 AM - 05:55 AM	05:50 AM - 05:55 AM	59.2	45.0	08:30 AM - 08:35 AM	08:30 AM - 08:35 AM	61.6	47.4
05:55 AM - 06:00 AM	05:55 AM - 06:00 AM	61.1	43.7	08:35 AM - 08:40 AM	08:35 AM - 08:40 AM	61.9	47.6
06:00 AM - 06:05 AM	06:00 AM - 06:05 AM	63.6	45.8	08:40 AM - 08:45 AM	08:40 AM - 08:45 AM	62.9	43.9
06:05 AM - 06:10 AM	06:05 AM - 06:10 AM	66.3	44.1	08:45 AM - 08:50 AM	08:45 AM - 08:50 AM	65.4	50.2
06:10 AM - 06:15 AM	06:10 AM - 06:15 AM	64.2	45.9	08:50 AM - 08:55 AM	08:50 AM - 08:55 AM	62.0	50.1
06:15 AM - 06:20 AM	06:15 AM - 06:20 AM	65.5	46.2	08:55 AM - 09:00 AM	08:55 AM - 09:00 AM	62.2	53.7
06:20 AM - 06:25 AM	06:20 AM - 06:25 AM	63.4	54.2	09:00 AM - 09:05 AM	09:00 AM - 09:05 AM	63.7	43.9
06:25 AM - 06:30 AM	06:25 AM - 06:30 AM	64.2	49.6	09:05 AM - 09:10 AM	09:05 AM - 09:10 AM	64.5	59.7
06:30 AM - 06:35 AM	06:30 AM - 06:35 AM	63.6	45.5	09:10 AM - 09:15 AM	09:10 AM - 09:15 AM	63.9	50.1
06:35 AM - 06:40 AM	06:35 AM - 06:40 AM	63.6	47.4	09:15 AM - 09:20 AM	09:15 AM - 09:20 AM	61.8	44.0

The above results are valid only for the above specified conditions and are not to be used for any other purpose. The results are not to be used for any other purpose without the written consent of the Laboratory. ALS Laboratory Group (Thailand) Ltd. is not responsible for any errors or omissions in the report. The report is not to be reproduced without the written consent of the Laboratory.

Approved by

Siravit Jitranont  
Assistant General Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phrak Daeng, Rayong Thailand 21140  
P/O : RUK(2)-030/65  
Project Name : Phrak Daeng  
Project Location :  
Lot ID: 22147442  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2534242-1

Page 1 of 3

Sample Number : 22147442-14  
Noise Level (Leq 5 min)  
Location : หมู่บ้านในวัง 2 ถนนสุขุมวิท 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 25 - Dec 26, 2022  
Measurement by : Sirwit Ruangsom watthanasri 3-323-9-9475  
Sound Level meter : Serial No. 00472124

Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)	Dec 25, 2022	Time	Leq dB(A)	L90 dB(A)
12:00 PM - 12:05 PM	12:00 PM - 12:05 PM	60.2	39.9	02:40 PM - 02:45 PM	02:40 PM - 02:45 PM	69.4	65.5
12:05 PM - 12:10 PM	12:05 PM - 12:10 PM	61.8	44.3	02:45 PM - 02:50 PM	02:45 PM - 02:50 PM	69.2	54.5
12:10 PM - 12:15 PM	12:10 PM - 12:15 PM	61.6	42.0	02:50 PM - 02:55 PM	02:50 PM - 02:55 PM	66.4	54.3
12:15 PM - 12:20 PM	12:15 PM - 12:20 PM	59.4	41.0	02:55 PM - 03:00 PM	02:55 PM - 03:00 PM	68.6	60.4
12:20 PM - 12:25 PM	12:20 PM - 12:25 PM	62.4	41.1	03:00 PM - 03:05 PM	03:00 PM - 03:05 PM	62.9	53.6
12:25 PM - 12:30 PM	12:25 PM - 12:30 PM	60.9	44.8	03:05 PM - 03:10 PM	03:05 PM - 03:10 PM	68.6	65.9
12:30 PM - 12:35 PM	12:30 PM - 12:35 PM	61.3	44.8	03:10 PM - 03:15 PM	03:10 PM - 03:15 PM	68.2	55.8
12:35 PM - 12:40 PM	12:35 PM - 12:40 PM	59.6	41.0	03:15 PM - 03:20 PM	03:15 PM - 03:20 PM	65.9	52.5
12:40 PM - 12:45 PM	12:40 PM - 12:45 PM	59.9	40.0	03:20 PM - 03:25 PM	03:20 PM - 03:25 PM	63.3	49.6
12:45 PM - 12:50 PM	12:45 PM - 12:50 PM	67.3	44.4	03:25 PM - 03:30 PM	03:25 PM - 03:30 PM	62.5	50.0
12:50 PM - 12:55 PM	12:50 PM - 12:55 PM	61.8	46.0	03:30 PM - 03:35 PM	03:30 PM - 03:35 PM	61.1	49.2
12:55 PM - 01:00 PM	12:55 PM - 01:00 PM	63.4	46.6	03:35 PM - 03:40 PM	03:35 PM - 03:40 PM	62.1	49.6
01:00 PM - 01:05 PM	01:00 PM - 01:05 PM	58.9	43.7	03:40 PM - 03:45 PM	03:40 PM - 03:45 PM	61.5	51.2
01:05 PM - 01:10 PM	01:05 PM - 01:10 PM	61.6	45.5	03:45 PM - 03:50 PM	03:45 PM - 03:50 PM	62.7	50.1
01:10 PM - 01:15 PM	01:10 PM - 01:15 PM	61.7	44.9	03:50 PM - 03:55 PM	03:50 PM - 03:55 PM	59.8	48.6
01:15 PM - 01:20 PM	01:15 PM - 01:20 PM	62.8	46.0	03:55 PM - 04:00 PM	03:55 PM - 04:00 PM	65.4	49.9
01:20 PM - 01:25 PM	01:20 PM - 01:25 PM	65.6	57.5	04:00 PM - 04:05 PM	04:00 PM - 04:05 PM	60.9	50.4
01:25 PM - 01:30 PM	01:25 PM - 01:30 PM	62.1	49.3	04:05 PM - 04:10 PM	04:05 PM - 04:10 PM	61.7	50.9
01:30 PM - 01:35 PM	01:30 PM - 01:35 PM	60.3	42.8	04:10 PM - 04:15 PM	04:10 PM - 04:15 PM	63.6	51.2
01:35 PM - 01:40 PM	01:35 PM - 01:40 PM	64.3	47.0	04:15 PM - 04:20 PM	04:15 PM - 04:20 PM	65.3	51.7
01:40 PM - 01:45 PM	01:40 PM - 01:45 PM	56.5	43.7	04:20 PM - 04:25 PM	04:20 PM - 04:25 PM	67.4	51.5
01:45 PM - 01:50 PM	01:45 PM - 01:50 PM	59.0	45.4	04:25 PM - 04:30 PM	04:25 PM - 04:30 PM	68.0	52.6
01:50 PM - 01:55 PM	01:50 PM - 01:55 PM	64.2	47.6	04:30 PM - 04:35 PM	04:30 PM - 04:35 PM	62.6	51.0
01:55 PM - 02:00 PM	01:55 PM - 02:00 PM	59.3	47.0	04:35 PM - 04:40 PM	04:35 PM - 04:40 PM	66.5	51.1
02:00 PM - 02:05 PM	02:00 PM - 02:05 PM	67.0	49.2	04:40 PM - 04:45 PM	04:40 PM - 04:45 PM	62.3	51.1
02:05 PM - 02:10 PM	02:05 PM - 02:10 PM	66.5	48.0	04:45 PM - 04:50 PM	04:45 PM - 04:50 PM	62.2	50.3
02:10 PM - 02:15 PM	02:10 PM - 02:15 PM	61.0	48.1	04:50 PM - 04:55 PM	04:50 PM - 04:55 PM	63.6	50.8
02:15 PM - 02:20 PM	02:15 PM - 02:20 PM	61.3	48.0	04:55 PM - 05:00 PM	04:55 PM - 05:00 PM	65.5	50.9
02:20 PM - 02:25 PM	02:20 PM - 02:25 PM	59.6	46.0	05:00 PM - 05:05 PM	05:00 PM - 05:05 PM	63.9	48.9
02:25 PM - 02:30 PM	02:25 PM - 02:30 PM	61.2	44.0	05:05 PM - 05:10 PM	05:05 PM - 05:10 PM	60.8	47.4
02:30 PM - 02:35 PM	02:30 PM - 02:35 PM	66.7	63.4	05:10 PM - 05:15 PM	05:10 PM - 05:15 PM	64.0	50.0
02:35 PM - 02:40 PM	02:35 PM - 02:40 PM	64.1	57.2	05:15 PM - 05:20 PM	05:15 PM - 05:20 PM	62.8	45.7

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Approved by

Siravit Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RIN(C)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534243-1

Page 2 of 3

Sample Number : 22147442-14  
Parameter : Noise Level (Leq 5 min)  
Location : บ้านใหม่ หมู่ 2 ตำบลหนองบัว 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 25 - Dec 26, 2022  
Measurement by : Sirikit Ruangsom Yattinunthakul 3-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 25, 2022	Dec 25 - Dec 26, 2022	Dec 26, 2022	Leq dBA	L90 dBA	Time	Leq dBA	L90 dBA
08:00 PM - 08:05 PM	10:40 PM - 10:45 PM	01:20 AM - 01:25 AM	49.7	40.8	01:20 AM - 01:25 AM	43.2	41.9
08:05 PM - 08:10 PM	10:45 PM - 10:50 PM	01:25 AM - 01:30 AM	51.1	41.1	01:25 AM - 01:30 AM	53.1	42.4
08:10 PM - 08:15 PM	10:50 PM - 10:55 PM	01:30 AM - 01:35 AM	58.6	41.0	01:30 AM - 01:35 AM	42.3	40.9
08:15 PM - 08:20 PM	10:55 PM - 11:00 PM	01:35 AM - 01:40 AM	48.2	40.7	01:35 AM - 01:40 AM	43.9	41.9
08:20 PM - 08:25 PM	11:00 PM - 11:05 PM	01:40 AM - 01:45 AM	52.1	41.2	01:40 AM - 01:45 AM	42.5	41.9
08:25 PM - 08:30 PM	11:05 PM - 11:10 PM	01:45 AM - 01:50 AM	42.7	40.7	01:45 AM - 01:50 AM	42.1	41.4
08:30 PM - 08:35 PM	11:10 PM - 11:15 PM	01:50 AM - 01:55 AM	49.1	40.7	01:50 AM - 01:55 AM	41.7	41.1
08:35 PM - 08:40 PM	11:15 PM - 11:20 PM	01:55 AM - 02:00 AM	41.3	40.6	01:55 AM - 02:00 AM	46.8	41.2
08:40 PM - 08:45 PM	11:20 PM - 11:25 PM	02:00 AM - 02:05 AM	50.2	40.4	02:00 AM - 02:05 AM	55.9	41.2
08:45 PM - 08:50 PM	11:25 PM - 11:30 PM	02:05 AM - 02:10 AM	49.1	41.3	02:05 AM - 02:10 AM	54.6	41.0
08:50 PM - 08:55 PM	11:30 PM - 11:35 PM	02:10 AM - 02:15 AM	51.6	41.5	02:10 AM - 02:15 AM	41.6	41.1
08:55 PM - 09:00 PM	11:35 PM - 11:40 PM	02:15 AM - 02:20 AM	42.6	40.3	02:15 AM - 02:20 AM	41.8	40.4
09:00 PM - 09:05 PM	11:40 PM - 11:45 PM	02:20 AM - 02:25 AM	52.6	40.7	02:20 AM - 02:25 AM	57.0	41.7
09:05 PM - 09:10 PM	11:45 PM - 11:50 PM	02:25 AM - 02:30 AM	45.9	40.7	02:25 AM - 02:30 AM	40.9	39.1
09:10 PM - 09:15 PM	11:50 PM - 11:55 PM	02:30 AM - 02:35 AM	41.4	40.1	02:30 AM - 02:35 AM	54.8	41.1
09:15 PM - 09:20 PM	11:55 PM - 12:00 AM	02:35 AM - 02:40 AM	51.4	40.5	02:35 AM - 02:40 AM	40.9	39.3
09:20 PM - 09:25 PM	12:00 AM - 12:05 AM	02:40 AM - 02:45 AM	56.1	40.7	02:40 AM - 02:45 AM	40.7	39.9
09:25 PM - 09:30 PM	12:05 AM - 12:10 AM	02:45 AM - 02:50 AM	50.1	39.9	02:45 AM - 02:50 AM	41.3	40.7
09:30 PM - 09:35 PM	12:10 AM - 12:15 AM	02:50 AM - 02:55 AM	41.4	40.4	02:50 AM - 02:55 AM	51.0	40.9
09:35 PM - 09:40 PM	12:15 AM - 12:20 AM	02:55 AM - 03:00 AM	42.6	40.6	02:55 AM - 03:00 AM	42.6	40.9
09:40 PM - 09:45 PM	12:20 AM - 12:25 AM	03:00 AM - 03:05 AM	41.0	40.1	03:00 AM - 03:05 AM	46.9	39.8
09:45 PM - 09:50 PM	12:25 AM - 12:30 AM	03:05 AM - 03:10 AM	54.4	39.8	03:05 AM - 03:10 AM	50.2	39.3
09:50 PM - 09:55 PM	12:30 AM - 12:35 AM	03:10 AM - 03:15 AM	41.2	40.4	03:10 AM - 03:15 AM	42.0	38.4
09:55 PM - 10:00 PM	12:35 AM - 12:40 AM	03:15 AM - 03:20 AM	42.4	42.0	03:15 AM - 03:20 AM	54.8	37.5
10:00 PM - 10:05 PM	12:40 AM - 12:45 AM	03:20 AM - 03:25 AM	42.3	41.5	03:20 AM - 03:25 AM	56.0	37.8
10:05 PM - 10:10 PM	12:45 AM - 12:50 AM	03:25 AM - 03:30 AM	55.9	41.1	03:25 AM - 03:30 AM	49.8	38.5
10:10 PM - 10:15 PM	12:50 AM - 12:55 AM	03:30 AM - 03:35 AM	48.9	40.3	03:30 AM - 03:35 AM	42.9	39.0
10:15 PM - 10:20 PM	12:55 AM - 01:00 AM	03:35 AM - 03:40 AM	41.6	41.6	03:35 AM - 03:40 AM	45.9	44.6
10:20 PM - 10:25 PM	01:00 AM - 01:05 AM	03:40 AM - 03:45 AM	42.3	41.7	03:40 AM - 03:45 AM	48.9	39.2
10:25 PM - 10:30 PM	01:05 AM - 01:10 AM	03:45 AM - 03:50 AM	54.6	41.6	03:45 AM - 03:50 AM	53.2	39.0
10:30 PM - 10:35 PM	01:10 AM - 01:15 AM	03:50 AM - 03:55 AM	42.3	41.4	03:50 AM - 03:55 AM	53.2	38.2
10:35 PM - 10:40 PM	01:15 AM - 01:20 AM	03:55 AM - 04:00 AM	41.4	40.7	03:55 AM - 04:00 AM	53.8	38.7

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Approved by

Sirayuth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140  
P/O : RIN(C)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Lot ID: 22147442  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2534243-1

Page 3 of 3

Sample Number : 22147442-14  
Parameter : Noise Level (Leq 5 min)  
Location : บ้านใหม่ หมู่ 2 ตำบลหนองบัว 15 (N2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 25 - Dec 26, 2022  
Measurement by : Sirikit Ruangsom Yattinunthakul 3-323-a-9475  
Sound Level meter : Serial No. 00472124

Dec 26, 2022	Dec 26, 2022	Dec 26, 2022	Leq dBA	L90 dBA	Time	Leq dBA	L90 dBA
04:00 AM - 04:05 AM	06:50 AM - 06:55 AM	09:20 AM - 09:25 AM	47.9	38.8	09:20 AM - 09:25 AM	65.1	47.5
04:05 AM - 04:10 AM	06:55 AM - 07:00 AM	09:25 AM - 09:30 AM	49.3	38.2	09:25 AM - 09:30 AM	64.4	47.0
04:10 AM - 04:15 AM	07:00 AM - 07:05 AM	09:30 AM - 09:35 AM	50.1	39.5	09:30 AM - 09:35 AM	61.3	46.5
04:15 AM - 04:20 AM	07:05 AM - 07:10 AM	09:35 AM - 09:40 AM	56.3	40.3	09:35 AM - 09:40 AM	59.8	43.7
04:20 AM - 04:25 AM	07:10 AM - 07:15 AM	09:40 AM - 09:45 AM	52.5	38.9	09:40 AM - 09:45 AM	63.6	45.1
04:25 AM - 04:30 AM	07:15 AM - 07:20 AM	09:45 AM - 09:50 AM	50.9	38.5	09:45 AM - 09:50 AM	63.6	43.3
04:30 AM - 04:35 AM	07:20 AM - 07:25 AM	09:50 AM - 09:55 AM	51.7	40.5	09:50 AM - 09:55 AM	69.2	44.1
04:35 AM - 04:40 AM	07:25 AM - 07:30 AM	09:55 AM - 10:00 AM	58.9	40.6	09:55 AM - 10:00 AM	60.4	47.7
04:40 AM - 04:45 AM	07:30 AM - 07:35 AM	10:00 AM - 10:05 AM	58.9	40.3	10:00 AM - 10:05 AM	60.1	45.8
04:45 AM - 04:50 AM	07:35 AM - 07:40 AM	10:05 AM - 10:10 AM	64.4	39.8	10:05 AM - 10:10 AM	62.5	47.1
04:50 AM - 04:55 AM	07:40 AM - 07:45 AM	10:10 AM - 10:15 AM	54.2	40.7	10:10 AM - 10:15 AM	61.8	47.4
04:55 AM - 05:00 AM	07:45 AM - 07:50 AM	10:15 AM - 10:20 AM	41.0	40.5	10:15 AM - 10:20 AM	60.2	47.2
05:00 AM - 05:05 AM	07:50 AM - 07:55 AM	10:20 AM - 10:25 AM	54.0	40.5	10:20 AM - 10:25 AM	65.5	46.2
05:05 AM - 05:10 AM	07:55 AM - 08:00 AM	10:25 AM - 10:30 AM	58.2	42.1	10:25 AM - 10:30 AM	69.4	48.0
05:10 AM - 05:15 AM	08:00 AM - 08:05 AM	10:30 AM - 10:35 AM	60.3	42.6	10:30 AM - 10:35 AM	63.9	46.8
05:15 AM - 05:20 AM	08:05 AM - 08:10 AM	10:35 AM - 10:40 AM	61.8	46.1	10:35 AM - 10:40 AM	66.7	49.3
05:20 AM - 05:25 AM	08:10 AM - 08:15 AM	10:40 AM - 10:45 AM	58.4	43.7	10:40 AM - 10:45 AM	62.7	47.0
05:25 AM - 05:30 AM	08:15 AM - 08:20 AM	10:45 AM - 10:50 AM	57.0	44.8	10:45 AM - 10:50 AM	65.5	42.3
05:30 AM - 05:35 AM	08:20 AM - 08:25 AM	10:50 AM - 10:55 AM	63.3	47.1	10:50 AM - 10:55 AM	65.2	45.4
05:35 AM - 05:40 AM	08:25 AM - 08:30 AM	10:55 AM - 11:00 AM	61.2	45.8	10:55 AM - 11:00 AM	62.8	47.9
05:40 AM - 05:45 AM	08:30 AM - 08:35 AM	11:00 AM - 11:05 AM	64.4	47.4	11:00 AM - 11:05 AM	63.7	44.6
05:45 AM - 05:50 AM	08:35 AM - 08:40 AM	11:05 AM - 11:10 AM	62.3	51.2	11:05 AM - 11:10 AM	65.5	47.4
05:50 AM - 05:55 AM	08:40 AM - 08:45 AM	11:10 AM - 11:15 AM	61.9	51.1	11:10 AM - 11:15 AM	60.3	41.7
05:55 AM - 06:00 AM	08:45 AM - 08:50 AM	11:15 AM - 11:20 AM	66.3	50.7	11:15 AM - 11:20 AM	63.7	45.0
06:00 AM - 06:05 AM	08:50 AM - 08:55 AM	11:20 AM - 11:25 AM	63.6	56.1	11:20 AM - 11:25 AM	66.4	41.2
06:05 AM - 06:10 AM	08:55 AM - 09:00 AM	11:25 AM - 11:30 AM	66.9	56.0	11:25 AM - 11:30 AM	65.6	41.5
06:10 AM - 06:15 AM	09:00 AM - 09:05 AM	11:30 AM - 11:35 AM	62.9	48.4	11:30 AM - 11:35 AM	63.9	42.8
06:15 AM - 06:20 AM	09:05 AM - 09:10 AM	11:35 AM - 11:40 AM	65.6	55.3	11:35 AM - 11:40 AM	64.2	43.4
06:20 AM - 06:25 AM	09:10 AM - 09:15 AM	11:40 AM - 11:45 AM	62.9	46.4	11:40 AM - 11:45 AM	66.3	40.8
06:25 AM - 06:30 AM	09:15 AM - 09:20 AM	11:45 AM - 11:50 AM	66.7	55.3	11:45 AM - 11:50 AM	66.2	41.6
06:30 AM - 06:35 AM	09:20 AM - 09:25 AM	11:50 AM - 11:55 AM	68.6	55.8	11:50 AM - 11:55 AM	66.2	41.6
06:35 AM - 06:40 AM	09:25 AM - 09:30 AM	11:55 AM - 12:00 PM	68.9	56.2	11:55 AM - 12:00 PM	63.3	41.4

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Approved by

Sirayuth Jitranont  
Assistant General Manager

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# ภาคผนวก ค-10

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ระดับเสียงรบกวน





# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533960-1

P/O : RJN(2)-030/55  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 2

Sample No. : 22147444-1  
Parameter : (Noise)  
Location : (Noise)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sound Level Meter  
Sound Level Meter : 00295518

เวลา	เสียงจาก แหล่งกำเนิด	เสียงรบกวน โดยธรรมชาติ	ระดับเสียง (dB(A))		เสียงรบกวน รวม	เสียงรบกวนจากแหล่งกำเนิด ตามข้อ 2.2.1	เสียงรบกวน รวม	ค่าสูงสุด
			ค่าเฉลี่ย	ค่าสูงสุด				
12:00 PM - 12:05 PM	55.5	57.0	-1.5	7.0	58.5	-	58.5	5.5
12:05 PM - 12:10 PM	54.1	55.7	-1.6	7.0	57.3	-	57.3	5.5
12:10 PM - 12:15 PM	55.2	56.7	-1.5	7.0	57.2	-	57.2	19.8
12:15 PM - 12:20 PM	57.1	57.7	-0.6	7.0	58.1	-	58.1	14.2
12:20 PM - 12:25 PM	54.0	54.8	-0.8	7.0	55.0	-	55.0	5.8
12:25 PM - 12:30 PM	57.8	56.7	1.1	7.0	58.9	-	58.9	5.6
12:30 PM - 12:35 PM	55.7	56.4	-0.7	7.0	56.7	-	56.7	5.1
12:35 PM - 12:40 PM	56.0	56.2	-0.2	7.0	56.0	-	56.0	5.8
12:40 PM - 12:45 PM	52.6	55.8	-3.2	7.0	55.6	-	55.6	6.3
12:45 PM - 12:50 PM	52.7	56.9	-4.2	7.0	54.7	-	54.7	10.2
12:50 PM - 12:55 PM	52.8	51.6	1.2	7.0	51.8	-	51.8	13.3
12:55 PM - 1:00 PM	54.0	54.9	-0.9	7.0	54.9	-	54.9	8.2
1:00 PM - 1:05 PM	52.7	52.8	-0.1	7.0	52.7	-	52.7	4.7
1:05 PM - 1:10 PM	56.3	53.0	3.3	7.0	56.3	-	56.3	14.8
1:10 PM - 1:15 PM	54.4	54.1	0.3	1.5	55.9	-	55.9	5.8
1:15 PM - 1:20 PM	54.8	50.9	3.9	7.0	54.8	-	54.8	2.8
1:20 PM - 1:25 PM	58.5	59.4	-0.9	7.0	59.0	-	59.0	13.0
1:25 PM - 1:30 PM	56.4	55.5	0.9	7.0	56.4	-	56.4	14.5
1:30 PM - 1:35 PM	57.4	55.8	1.6	4.5	55.9	-	55.9	6.4
1:35 PM - 1:40 PM	51.1	57.0	-5.9	7.0	51.1	-	51.1	6.7
1:40 PM - 1:45 PM	51.8	51.2	0.6	7.0	51.8	-	51.8	7.1
1:45 PM - 1:50 PM	51.1	54.4	-3.3	7.0	51.1	-	51.1	20.1
1:50 PM - 1:55 PM	51.1	54.4	-3.3	7.0	51.1	-	51.1	5.0
1:55 PM - 2:00 PM	51.1	54.4	-3.3	7.0	51.1	-	51.1	6.5
2:00 PM - 2:05 PM	51.1	54.7	-3.6	7.0	51.1	-	51.1	6.5
2:05 PM - 2:10 PM	51.1	52.8	8.3	6.5	59.4	-	59.4	22.5
2:10 PM - 2:15 PM	51.1	51.0	0.1	7.0	51.1	-	51.1	16.1
2:15 PM - 2:20 PM	51.3	54.4	0.9	7.0	53.3	-	53.3	6.8
2:20 PM - 2:25 PM	57.2	48.8	8.4	6.5	59.7	-	59.7	18.0
2:25 PM - 2:30 PM	56.8	51.0	5.8	7.0	56.8	-	56.8	11.9
2:30 PM - 2:35 PM	56.8	55.5	1.3	7.0	56.8	-	56.8	5.9
2:35 PM - 2:40 PM	49.8	50.2	-0.4	7.0	49.8	-	49.8	6.7
2:40 PM - 2:45 PM	51.7	57.5	-5.8	7.0	51.7	-	51.7	6.5
2:45 PM - 2:50 PM	51.3	51.8	-0.5	7.0	51.3	-	51.3	6.7
2:50 PM - 2:55 PM	42.8	44.1	-1.3	7.0	42.8	-	42.8	4.3
2:55 PM - 3:00 PM	46.0	47.0	-1.0	7.0	46.0	-	46.0	5.1
3:00 PM - 3:05 PM	42.4	46.8	-4.4	7.0	42.4	-	42.4	5.6
3:05 PM - 3:10 PM	46.2	55.1	-8.9	7.0	46.2	-	46.2	6.3
3:10 PM - 3:15 PM	52.1	56.4	-4.3	7.0	48.1	-	48.1	9.0
3:15 PM - 3:20 PM	52.3	56.3	-4.0	7.0	48.3	-	48.3	8.2



# Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :



TESTING  
No.0042

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2533961-1

Page 2 of 3

Sample No. 22147444-2  
Parameter Location  
Measurement Date Dec 20 - 21, 2022  
Measurement by Sirek Ruangsom  
Sound Level Meter 00296518

เวลา	เสียงจากแหล่งกำเนิด	เสียงตามจุดวัด	ระดับเสียง (dB(A))		ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย
12:30 AM - 12:35 AM	43.6	57.4	13.8	7.0	-	39.6	41.3	11.3
12:35 AM - 12:40 AM	54.5	82.9	1.0	7.0	-	50.5	42.3	10.3
12:40 AM - 12:45 AM	48.9	57.8	-0.1	7.0	-	43.8	-0.1	4.9
12:45 AM - 12:50 AM	51.1	54.1	1.0	1.5	-	50.6	40.2	20.4
12:50 AM - 12:55 AM	62.8	48.4	14.4	0.0	-	63.8	40.8	23.0
12:55 AM - 01:00 AM	44.0	52.9	-7.9	7.0	-	40.0	40.8	-0.8
01:00 AM - 01:05 AM	48.0	49.0	-1.0	7.0	-	44.0	40.1	3.9
01:05 AM - 01:10 AM	58.1	48.5	11.6	0.5	-	60.5	40.2	20.4
01:10 AM - 01:15 AM	49.1	51.8	-2.7	7.0	-	45.1	40.1	5.0
01:15 AM - 01:20 AM	48.0	58.0	-1.0	7.0	-	42.8	41.1	1.7
01:20 AM - 01:25 AM	40.9	52.1	-6.2	7.0	-	38.9	41.4	-2.5
01:25 AM - 01:30 AM	58.2	42.0	16.2	0.0	-	61.2	40.6	20.6
01:30 AM - 01:35 AM	50.5	46.0	2.5	3.0	-	30.5	41.0	9.5
01:35 AM - 01:40 AM	48.4	44.8	1.6	2.0	-	49.4	41.8	7.6
01:40 AM - 01:45 AM	55.8	50.4	5.4	1.5	-	57.3	42.2	15.1
01:45 AM - 01:50 AM	57.4	54.9	-2.5	7.0	-	48.6	38.2	9.4
01:50 AM - 01:55 AM	40.2	42.8	-2.6	7.0	-	38.2	38.4	-0.2
01:55 AM - 02:00 AM	15.5	53.1	2.4	4.5	-	54.0	38.3	15.7
02:00 AM - 02:05 AM	56.0	47.4	8.6	0.5	-	58.5	35.1	23.4
02:05 AM - 02:10 AM	56.3	57.7	0.4	7.0	-	54.3	32.8	21.5
02:10 AM - 02:15 AM	59.5	51.4	21.9	7.0	-	35.5	28.2	-7.3
02:15 AM - 02:20 AM	46.7	45.3	1.4	2.0	-	49.7	41.8	7.9
02:20 AM - 02:25 AM	54.8	60.5	4.3	2.0	-	63.8	42.1	21.7
02:25 AM - 02:30 AM	52.0	52.0	0.0	7.0	-	45.9	41.4	4.5
02:30 AM - 02:35 AM	40.7	50.7	-10.0	7.0	-	36.7	41.4	-4.7
02:35 AM - 02:40 AM	31.1	38.1	-7.0	7.0	-	40.1	41.0	-0.9
02:40 AM - 02:45 AM	45.9	54.9	-9.0	7.0	-	46.4	40.9	5.5
02:45 AM - 02:50 AM	57.4	42.5	24.9	0.0	-	70.4	40.7	29.7
02:50 AM - 02:55 AM	38.9	57.8	-18.9	7.0	-	35.9	40.7	-4.8
02:55 AM - 03:00 AM	38.9	58.9	-2.0	7.0	-	53.1	42.1	11.0
03:00 AM - 03:05 AM	51.2	60.8	-9.6	7.0	-	47.2	41.3	5.9
03:05 AM - 03:10 AM	38.9	41.8	15.1	0.0	-	59.4	40.5	18.9
03:10 AM - 03:15 AM	40.9	31.0	-9.0	7.0	-	38.8	40.4	-1.6
03:15 AM - 03:20 AM	42.9	32.1	-10.7	7.0	-	38.9	41.2	-2.3
03:20 AM - 03:25 AM	60.4	57.3	3.1	0.5	-	62.9	40.9	22.0
03:25 AM - 03:30 AM	51.3	43.0	8.3	0.5	-	34.0	41.1	-7.1
03:30 AM - 03:35 AM	51.3	58.4	-7.1	0.5	-	48.0	41.5	6.5
03:35 AM - 03:40 AM	49.4	52.7	-3.3	7.0	-	45.4	41.5	3.9
03:40 AM - 03:45 AM	58.9	69.7	-10.8	7.0	-	54.9	41.7	13.2
03:45 AM - 03:50 AM	58.3	42.2	16.1	0.0	-	61.3	40.4	20.9

Approved by

Wibb.  
Wiboran Borik  
Assistant Manager

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# Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :



TESTING  
No.0042

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2533961-1

Page 3 of 3

Sample No. 22147444-2  
Parameter Location  
Measurement Date Dec 20 - 21, 2022  
Measurement by Sirek Ruangsom  
Sound Level Meter 00296518

เวลา	เสียงจากแหล่งกำเนิด	เสียงตามจุดวัด	ระดับเสียง (dB(A))		ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย
01:30 AM - 01:35 AM	58.8	61.3	-2.5	7.0	-	41.3	41.3	0.0
01:35 AM - 01:40 AM	54.4	51.1	3.3	7.0	-	50.4	41.4	9.0
01:40 AM - 01:45 AM	58.5	59.2	-0.7	7.0	-	54.5	41.5	13.0
01:45 AM - 01:50 AM	56.4	42.1	14.3	0.0	-	58.8	41.6	17.2
01:50 AM - 01:55 AM	53.2	45.3	8.0	0.5	-	53.7	41.0	12.7
01:55 AM - 02:00 AM	59.0	62.7	-3.7	7.0	-	55.0	41.3	13.7
02:00 AM - 02:05 AM	50.9	52.8	-1.9	7.0	-	46.0	41.6	4.4
02:05 AM - 02:10 AM	46.7	65.8	-19.1	7.0	-	41.7	42.2	-0.5
02:10 AM - 02:15 AM	61.9	51.7	10.2	0.5	-	68.4	42.4	26.0
02:15 AM - 02:20 AM	60.7	61.2	-0.5	7.0	-	61.9	44.3	17.6
02:20 AM - 02:25 AM	50.7	60.3	-9.6	7.0	-	56.2	41.8	14.4
02:25 AM - 02:30 AM	51.6	59.1	2.5	3.0	-	61.6	42.4	19.2
02:30 AM - 02:35 AM	69.3	56.7	12.6	2.0	-	61.3	41.7	19.6
02:35 AM - 02:40 AM	58.6	58.4	0.2	7.0	-	58.6	41.2	17.4
02:40 AM - 02:45 AM	64.9	58.9	6.0	1.5	-	66.4	41.5	24.9
02:45 AM - 02:50 AM	63.7	55.5	8.2	0.5	-	66.2	42.1	24.1
02:50 AM - 02:55 AM	64.7	61.2	3.5	2.0	-	64.2	41.3	22.9
02:55 AM - 03:00 AM	63.2	53.3	10.0	0.5	-	67.7	42.7	25.0
03:00 AM - 03:05 AM	65.1	48.0	17.1	0.0	-	68.1	42.5	25.6
03:05 AM - 03:10 AM	63.1	60.2	-7.0	2.0	-	61.9	44.3	17.6
03:10 AM - 03:15 AM	64.8	63.0	1.8	4.5	-	63.3	44.7	18.6
03:15 AM - 03:20 AM	67.6	63.5	4.1	1.5	-	69.1	43.3	25.8
03:20 AM - 03:25 AM	65.8	63.9	2.0	4.5	-	64.4	43.2	21.2
03:25 AM - 03:30 AM	64.9	61.4	3.5	7.0	-	61.7	42.7	19.0
03:30 AM - 03:35 AM	70.0	61.9	8.1	0.5	-	72.5	42.6	29.9
03:35 AM - 03:40 AM	67.2	67.2	0.0	7.0	-	61.2	44.9	16.3
03:40 AM - 03:45 AM	61.2	61.2	0.0	7.0	-	61.8	45.9	15.9
03:45 AM - 03:50 AM	64.2	65.6	-11.4	7.0	-	67.2	46.9	20.3
03:50 AM - 03:55 AM	63.1	56.1	7.0	7.0	-	61.3	47.8	13.5
03:55 AM - 04:00 AM	64.4	62.4	2.0	4.5	-	63.9	45.8	18.1

Reference Method: ISO 1996-1  
1. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบตามมาตรฐาน ISO 1996-1 โดยใช้เครื่องมือวัดเสียงตามมาตรฐาน IEC 6168 และ IEC 6170  
2. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบตามมาตรฐาน ISO 1996-1 โดยใช้เครื่องมือวัดเสียงตามมาตรฐาน IEC 6168 และ IEC 6170  
3. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบตามมาตรฐาน ISO 1996-1 โดยใช้เครื่องมือวัดเสียงตามมาตรฐาน IEC 6168 และ IEC 6170  
4. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบตามมาตรฐาน ISO 1996-1 โดยใช้เครื่องมือวัดเสียงตามมาตรฐาน IEC 6168 และ IEC 6170

Approved by

Wibb.  
Wiboran Borik  
Assistant Manager

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# Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :



TESTING  
No.0042

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2533962-1

Page 1 of 3

Sample No. 22147444-3  
Parameter Location  
Measurement Date Dec 21 - 22, 2022  
Measurement by Sirek Ruangsom  
Sound Level Meter 00296518

เวลา	เสียงจากแหล่งกำเนิด	เสียงตามจุดวัด	ระดับเสียง (dB(A))		ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าเฉลี่ย				
13:00 PM - 01:00 PM	64.4	63.2	1.2	7.0	-	43.8	33.6	10.2
01:00 PM - 02:00 PM	64.4	62.1	2.3	4.5	-	43.9	37.0	6.9
02:00 PM - 03:00 PM	64.9	62.5	2.4	3.0	-	44.5	35.4	9.1
03:00 PM - 04:00 PM	65.7	62.2	3.5	2.0	-	63.7	41.0	22.7
04:00 PM - 05:00 PM	68.1	62.9	5.2	1.5	-	66.6	38.3	28.3
05:00 PM - 06:00 PM	65.0	63.9	1.1	2.5	-	61.5	42.6	18.9
06:00 PM - 07:00 PM	66.2	65.1	1.1	7.0	-	59.8	42.6	17.2
07:00 PM - 08:00 PM	65.3	64.4	0.9	2.0	-	58.3	42.9	15.4
08:00 PM - 09:00 PM	65.1	64.4	-1.3	7.0	-	48.6	42.6	6.0
09:00 PM - 10:00 PM	59.5	62.7	-3.2	7.0	-	49.0	42.6	6.4
10:00 PM - 11:00 PM	47.2	61.9	-14.7	7.0	-	42.2	45.1	-2.9
11:00 PM - 12:00 PM	62.8	60.5	2.3	4.5	-	61.3	44.4	16.9
12:00 PM - 01:00 PM	56.5	62.1	-5.6	7.0	-	56.5	42.8	13.7
01:00 PM - 02:00 PM	57.2	57.2	0.0	7.0	-	51.2	40.2	11.0
02:00 PM - 03:00 PM	59.4	59.5	-0.1	7.0	-	55.4	44.1	11.3
03:00 PM - 04:00 PM	60.5	59.3	1.2	7.0	-	58.5	42.8	15.7
04:00 PM - 05:00 PM	60.2	61.4	-1.2	7.0	-	42.2	43.3	-1.1
05:00 PM - 06:00 PM	64.8	58.0	6.8	0.0	-	66.8	47.7	19.1
06:00 PM - 07:00 PM	54.1	58.1	-4.0	7.0	-	50.1	42.6	7.5
07:00 PM - 08:00 PM	61.8	58.8	3.0	4.5	-	60.3	42.6	17.7
08:00 PM - 09:00 PM	55.0	60.1	-5.1	7.0	-	51.0	43.3	7.7
09:00 PM - 10:00 PM	56.4	60.4	-4.0	7.0	-	52.4	42.0	9.4
10:00 PM - 11:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
11:00 PM - 12:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
12:00 PM - 01:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
01:00 PM - 02:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
02:00 PM - 03:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
03:00 PM - 04:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
04:00 PM - 05:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
05:00 PM - 06:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
06:00 PM - 07:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
07:00 PM - 08:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
08:00 PM - 09:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
09:00 PM - 10:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
10:00 PM - 11:00 PM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
11:00 PM - 12:00 AM	61.1	59.9	1.2	7.0	-	51.5	42.8	8.7
12:00 AM - 01:00 AM	54.5	58.5	-4.0	7.0	-	50.3	41.3	9.0
01:00 AM - 02:00 AM	52.3	58.4	-6.1	7.0	-	46.2	39.4	6.8
02:00 AM - 03:00 AM	54.9	58.2	-3.4	7.0	-	50.6	41.4	9.2
03:00 AM - 04:00 AM	49.5	52.4	-4.0	7.0	-	44.5	36.3	8.2
04:00 AM - 05:00 AM	47.2	50.2	-3.0	7.0	-	42.5	34.7	7.8
05:00 AM - 06:00 AM	52.3	51.4	0.9	7.0	-	45.5	39.2	6.3







# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phin, Pluak Daeng, Rayong Thailand 21140

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location : Silvit Rungsom

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533964-1

Sample No. : 22147444-5  
Parameter : เสียงรบกวน (NI) (GPS 47P 734053, 1432206)  
Location : Dec 23 - 24, 2022  
Measurement Date : Silvit Rungsom  
Measurement by : 00296518

ตารางข้อมูลการวัดเสียงรบกวน (dB(A))									
เวลา	เสียงรบกวน ตามอาคาร	เสียงรบกวน โดยทั่วไป	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร	เสียงรบกวน ตามอาคาร
08:00 PM - 01:00 PM	55.4	64.9	1.4	7.0	58.4	-	41.4	17.0	-
01:00 PM - 02:00 PM	64.7	62.7	2.0	4.5	59.2	-	41.7	18.9	-
02:00 PM - 03:00 PM	53.8	62.3	1.5	4.5	59.3	-	38.9	15.5	-
03:00 PM - 04:00 PM	56.9	62.3	4.7	1.5	55.4	-	38.5	24.9	-
04:00 PM - 05:00 PM	58.1	62.4	4.7	1.5	56.6	-	43.9	23.7	-
05:00 PM - 06:00 PM	57.2	64.9	2.3	4.5	52.7	-	47.0	13.7	-
06:00 PM - 07:00 PM	58.5	65.7	0.8	7.0	59.5	-	49.9	9.9	-
07:00 PM - 08:00 PM	55.7	64.7	1.0	7.0	58.7	-	49.9	8.8	-
08:00 PM - 09:00 PM	53.4	63.6	-0.2	7.0	55.4	-	46.0	7.4	-
09:00 PM - 10:00 PM	52.0	63.3	-0.2	7.0	55.0	-	47.3	7.7	-
10:00 PM - 11:00 PM	53.1	57.9	-2.9	7.0	55.4	-	51.1	47.5	3.3
11:00 PM - 12:00 PM	54.3	58.1	-3.8	7.0	-	50.3	47.7	2.5	-
12:00 PM - 01:00 PM	53.2	62.5	-2.3	7.0	-	51.2	47.7	1.5	-
01:00 PM - 02:00 PM	56.7	64.3	-5.6	7.0	-	54.7	47.7	7.0	-
02:00 PM - 03:00 PM	53.2	56.4	4.8	1.5	-	62.7	47.5	15.2	-
03:00 PM - 04:00 PM	54.9	55.8	-14.9	7.0	-	46.9	47.3	-6.4	-
04:00 PM - 05:00 PM	53.8	54.9	4.2	1.5	-	50.3	46.2	14.1	-
05:00 PM - 06:00 PM	54.7	64.7	-10.0	7.0	-	50.7	46.8	4.1	-
06:00 PM - 07:00 PM	52.5	54.0	8.5	0.5	-	52.0	46.2	18.8	-
07:00 PM - 08:00 PM	52.7	55.4	-6.2	7.0	-	48.7	46.8	1.9	-
08:00 PM - 09:00 PM	53.7	63.8	-8.1	7.0	-	51.7	47.3	4.4	-
09:00 PM - 10:00 PM	55.2	56.8	-3.8	7.0	-	51.2	46.3	4.9	-
10:00 PM - 11:00 PM	53.2	57.1	2.1	4.5	-	51.7	45.5	6.2	-
11:00 PM - 12:00 PM	52.9	57.2	5.8	1.5	-	44.3	42.9	21.4	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
11:00 PM - 12:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
12:00 PM - 01:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
01:00 PM - 02:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
02:00 PM - 03:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
03:00 PM - 04:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
04:00 PM - 05:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
05:00 PM - 06:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
06:00 PM - 07:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
07:00 PM - 08:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
08:00 PM - 09:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
09:00 PM - 10:00 PM	51.8	54.8	7.0	1.0	-	43.6	43.0	20.7	-
10:00 PM - 11:00 PM	51.8</								



# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533965-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng

Sample No. : 22147444-6  
Parameter : ปรอทอมตะ (NI) (GPS 47P 734053, 1432206)  
Location : บ้านท่าหลวง (NI) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : Savitri Rungsum  
Sound Level Meter : 00295518

เวลา	เสียงจากแหล่งกำเนิด	เสียงรวม	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ
12:30 AM - 12:35 AM	56.3	54.1	2.1	4.5	4.5	4.5	4.5	4.5
12:35 AM - 12:40 AM	49.3	51.4	-1.9	2.0	4.5	4.5	4.5	4.5
12:40 AM - 12:45 AM	67.3	58.4	4.9	3.5	4.5	4.5	4.5	4.5
12:45 AM - 12:50 AM	56.4	54.3	2.1	4.5	4.5	4.5	4.5	4.5
12:50 AM - 12:55 AM	56.1	47.9	8.9	6.5	4.5	4.5	4.5	4.5
12:55 AM - 01:00 AM	50.2	49.1	1.1	2.0	4.5	4.5	4.5	4.5
01:00 AM - 01:05 AM	37.8	53.2	1.1	2.0	4.5	4.5	4.5	4.5
01:05 AM - 01:10 AM	41.9	40.8	1.1	2.0	4.5	4.5	4.5	4.5
01:10 AM - 01:15 AM	37.7	52.6	1.1	2.0	4.5	4.5	4.5	4.5
01:15 AM - 01:20 AM	44.0	42.9	1.1	2.0	4.5	4.5	4.5	4.5
01:20 AM - 01:25 AM	58.5	48.5	1.1	2.0	4.5	4.5	4.5	4.5
01:25 AM - 01:30 AM	56.1	55.0	1.1	2.0	4.5	4.5	4.5	4.5
01:30 AM - 01:35 AM	48.2	47.1	1.1	2.0	4.5	4.5	4.5	4.5
01:35 AM - 01:40 AM	57.6	52.5	1.1	2.0	4.5	4.5	4.5	4.5
01:40 AM - 01:45 AM	60.2	59.1	1.1	2.0	4.5	4.5	4.5	4.5
01:45 AM - 01:50 AM	58.4	57.3	1.1	2.0	4.5	4.5	4.5	4.5
01:50 AM - 01:55 AM	51.7	50.6	1.1	2.0	4.5	4.5	4.5	4.5
01:55 AM - 02:00 AM	49.5	48.4	1.1	2.0	4.5	4.5	4.5	4.5
02:00 AM - 02:05 AM	42.5	41.4	1.1	2.0	4.5	4.5	4.5	4.5
02:05 AM - 02:10 AM	47.0	45.9	1.1	2.0	4.5	4.5	4.5	4.5
02:10 AM - 02:15 AM	56.7	55.6	1.1	2.0	4.5	4.5	4.5	4.5
02:15 AM - 02:20 AM	53.5	52.4	1.1	2.0	4.5	4.5	4.5	4.5
02:20 AM - 02:25 AM	53.9	52.8	1.1	2.0	4.5	4.5	4.5	4.5
02:25 AM - 02:30 AM	53.5	52.4	1.1	2.0	4.5	4.5	4.5	4.5
02:30 AM - 02:35 AM	53.4	52.3	1.1	2.0	4.5	4.5	4.5	4.5
02:35 AM - 02:40 AM	51.9	50.8	1.1	2.0	4.5	4.5	4.5	4.5
02:40 AM - 02:45 AM	56.7	55.6	1.1	2.0	4.5	4.5	4.5	4.5
02:45 AM - 02:50 AM	42.4	41.3	1.1	2.0	4.5	4.5	4.5	4.5
02:50 AM - 02:55 AM	57.1	56.0	1.1	2.0	4.5	4.5	4.5	4.5
02:55 AM - 03:00 AM	52.5	51.4	1.1	2.0	4.5	4.5	4.5	4.5
03:00 AM - 03:05 AM	41.8	40.7	1.1	2.0	4.5	4.5	4.5	4.5
03:05 AM - 03:10 AM	42.4	41.3	1.1	2.0	4.5	4.5	4.5	4.5
03:10 AM - 03:15 AM	55.7	54.6	1.1	2.0	4.5	4.5	4.5	4.5
03:15 AM - 03:20 AM	55.6	54.5	1.1	2.0	4.5	4.5	4.5	4.5
03:20 AM - 03:25 AM	51.8	50.7	1.1	2.0	4.5	4.5	4.5	4.5
03:25 AM - 03:30 AM	58.9	57.8	1.1	2.0	4.5	4.5	4.5	4.5
03:30 AM - 03:35 AM	55.5	54.4	1.1	2.0	4.5	4.5	4.5	4.5
03:35 AM - 03:40 AM	54.4	53.3	1.1	2.0	4.5	4.5	4.5	4.5
03:40 AM - 03:45 AM	62.7	61.6	1.1	2.0	4.5	4.5	4.5	4.5
03:45 AM - 03:50 AM	64.0	62.9	1.1	2.0	4.5	4.5	4.5	4.5

Approved by

Witwan Borak  
Assistant Manager

The data results are valid for the period of time specified in the report. The data results are not valid for the period of time specified in the report. The data results are not valid for the period of time specified in the report.

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533965-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng

Sample No. : 22147444-6  
Parameter : ปรอทอมตะ (NI) (GPS 47P 734053, 1432206)  
Location : บ้านท่าหลวง (NI) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : Savitri Rungsum  
Sound Level Meter : 00295518

เวลา	เสียงจากแหล่งกำเนิด	เสียงรวม	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ	ค่าปรับ
03:10 AM - 03:15 AM	43.8	42.7	1.1	2.0	4.5	4.5	4.5	4.5
03:15 AM - 03:20 AM	47.6	46.5	1.1	2.0	4.5	4.5	4.5	4.5
03:20 AM - 03:25 AM	51.8	50.7	1.1	2.0	4.5	4.5	4.5	4.5
03:25 AM - 03:30 AM	59.0	57.9	1.1	2.0	4.5	4.5	4.5	4.5
03:30 AM - 03:35 AM	56.4	55.3	1.1	2.0	4.5	4.5	4.5	4.5
03:35 AM - 03:40 AM	53.4	52.3	1.1	2.0	4.5	4.5	4.5	4.5
03:40 AM - 03:45 AM	57.6	56.5	1.1	2.0	4.5	4.5	4.5	4.5
03:45 AM - 03:50 AM	49.5	48.4	1.1	2.0	4.5	4.5	4.5	4.5
03:50 AM - 03:55 AM	59.8	58.7	1.1	2.0	4.5	4.5	4.5	4.5
03:55 AM - 04:00 AM	54.3	53.2	1.1	2.0	4.5	4.5	4.5	4.5
04:00 AM - 04:05 AM	56.1	55.0	1.1	2.0	4.5	4.5	4.5	4.5
04:05 AM - 04:10 AM	55.4	54.3	1.1	2.0	4.5	4.5	4.5	4.5
04:10 AM - 04:15 AM	61.7	60.6	1.1	2.0	4.5	4.5	4.5	4.5
04:15 AM - 04:20 AM	56.7	55.6	1.1	2.0	4.5	4.5	4.5	4.5
04:20 AM - 04:25 AM	56.6	55.5	1.1	2.0	4.5	4.5	4.5	4.5
04:25 AM - 04:30 AM	59.3	58.2	1.1	2.0	4.5	4.5	4.5	4.5
04:30 AM - 04:35 AM	57.9	56.8	1.1	2.0	4.5	4.5	4.5	4.5
04:35 AM - 04:40 AM	56.2	55.1	1.1	2.0	4.5	4.5	4.5	4.5
04:40 AM - 04:45 AM	61.3	60.2	1.1	2.0	4.5	4.5	4.5	4.5
04:45 AM - 04:50 AM	64.3	63.2	1.1	2.0	4.5	4.5	4.5	4.5
04:50 AM - 04:55 AM	58.4	57.3	1.1	2.0	4.5	4.5	4.5	4.5
04:55 AM - 05:00 AM	59.2	58.1	1.1	2.0	4.5	4.5	4.5	4.5
05:00 AM - 05:05 AM	63.3	62.2	1.1	2.0	4.5	4.5	4.5	4.5
05:05 AM - 05:10 AM	63.5	62.4	1.1	2.0	4.5	4.5	4.5	4.5
05:10 AM - 05:15 AM	63.0	61.9	1.1	2.0	4.5	4.5	4.5	4.5
05:15 AM - 05:20 AM	63.6	62.5	1.1	2.0	4.5	4.5	4.5	4.5
05:20 AM - 05:25 AM	66.2	65.1	1.1	2.0	4.5	4.5	4.5	4.5
05:25 AM - 05:30 AM	65.1	64.0	1.1	2.0	4.5	4.5	4.5	4.5
05:30 AM - 05:35 AM	65.2	64.1	1.1	2.0	4.5	4.5	4.5	4.5
05:35 AM - 05:40 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
05:40 AM - 05:45 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
05:45 AM - 05:50 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
05:50 AM - 05:55 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
05:55 AM - 06:00 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:00 AM - 06:05 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:05 AM - 06:10 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:10 AM - 06:15 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:15 AM - 06:20 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:20 AM - 06:25 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:25 AM - 06:30 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:30 AM - 06:35 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:35 AM - 06:40 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:40 AM - 06:45 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:45 AM - 06:50 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:50 AM - 06:55 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
06:55 AM - 07:00 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:00 AM - 07:05 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:05 AM - 07:10 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:10 AM - 07:15 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:15 AM - 07:20 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:20 AM - 07:25 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:25 AM - 07:30 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:30 AM - 07:35 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:35 AM - 07:40 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:40 AM - 07:45 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:45 AM - 07:50 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:50 AM - 07:55 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5
07:55 AM - 08:00 AM	65.0	63.9	1.1	2.0	4.5	4.5	4.5	4.5

Approved by

Witwan Borak  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533965-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng

Sample No. : 22147444-7  
Parameter : ปรอทอมตะ (NI) (GPS 47P 734053, 1432206)  
Location : บ้านท่าหลวง (NI) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Savitri Rungsum  
Sound Level Meter : 00295518

Sound Level Meter		00295518		ระดับเสียง (dB(A))					
เวลา	เสียงจากแหล่งกำเนิด	เสียงรวม	ค่าปรับ	ค่าปรับ	เสียงที่เกินค่ามาตรฐาน		เสียงเกินค่ามาตรฐาน	ค่าปรับ	
					เกินค่ามาตรฐาน	ค่าปรับ			
12:00 PM - 12:05 PM	64.5	64.4	-0.1	2.0	37.5	-	43.4	14.1	
12:05 PM - 12:10 PM	65.0	65.8	-0.8	2.0	38.0	-	45.5	6.5	
12:10 PM - 12:15 PM	65.6	65.6	0.0	2.0	38.5	-	45.5	6.5	
12:15 PM - 12:20 PM	65.8	65.8	-0.2	2.0	38.6	-	45.7	6.9	
12:20 PM - 12:25 PM	67.3	67.6	-0.3	2.0	40.2	-	45.2	9.1	
12:25 PM - 12:30 PM	64.9	65.7	-0.8	2.0	36.9	-	46.1	7.8	
12:30 PM - 12:35 PM	65.8	64.7	1.1	2.0	37.5	-	45.7	8.3	
12:35 PM - 12:40 PM	63.6	64.7	-1.1	2.0	36.5	-	46.7	6.9	
12:40 PM - 12:45 PM	60.5	61.6	-1.1	2.0	33.5	-	46.4	7.1	
12:45 PM - 12:50 PM	59.4	60.5	-1.1	2.0	32.4	-	45.4	8.0	
12:50 PM - 12:55 PM	57.6	58.7	-1.1	2.0	31.4	-	45.6	10.8	
12:55 PM - 01:00 PM	52.9	54.0	-1.1	2.0	-	48.5	40.4	6.5	
01:00 PM - 01:05 PM	54.6	55.7	-1.1	2.0	-	50.6	41.4	9.2	
01:05 PM - 01:10 PM	52.7	53.8	-1.1	2.0	-	50.7	42.7	7.6	
01:10 PM - 01:15 PM	52.8	53.9	-1.1	2.0	-	49.8	41.1	6.7	
01:15 PM - 01:20 PM	47.1	48.2	-1.1	2.0	-	43.1	42.9	6.2	
01:20 PM - 01:25 PM	44.4	45.4	-1.1	2.0	-	40.4	41.7	8.8	
01:25 PM - 01:30 PM	38.0	39.9	2.1	4.5	-	35.5	39.3	17.2	
01:30 PM - 01:35 PM	43.4	46.3	2.1	4.5	-	40.9	38.8	2.1	
01:35 PM - 01:40 PM	48.3	49.3	2.1	4.5	-	44.8	39.9	11.9	
01:40 PM - 01:45 PM	48.3	49.3	2.1	4.5	-	40.7	39.8	11.8	
01:45 PM - 01:50 PM	50.4	49.3	2.1	4.5	-	48.9	38.7	10.2	
01:50 PM - 01:55 PM	54.1	53.0	2.1	4.5	-	52.6	38.3	11.3	
01:55 PM - 02:00 PM	44.1	42.2	2.1	4.5	-	41.8	40.2	7.9	
02:00 PM - 02:05 PM	53.1	51.2	2.1	4.5	-	51.8	39.3	7.5	
02:05 PM - 02:10 PM	50.2	48.1	2.1	4.5	-	46.7	37.8	9.1	
02:10 PM - 02:15 PM	44.7	42.8	2.1	4.5	-	43.2	40.3	12.9	
02:15 PM - 02:20 PM	53.1	52.2	2.1	4.5	-	50.8	40.2	10.6	
02:20 PM - 02:25 PM	53.0	47.0	2.1	4.5	-	48.3	40.2	8.5	
02:25 PM - 02:30 PM	54.1	50.0	2.1	4.5	-	53.6	39.3	11.3	
02:30 PM - 02:35 PM	54.1	50.0	2.1	4.5	-	50.8	39.3	11.3	
02:35 PM - 02:40 PM	52.2	49.1	2.1	4.5	-	47.7	39.2	6.3	
02:40 PM - 02:45 PM	52.5	50.4	2.1	4.5	-	41.0	39.4	11.6	
02:45 PM - 02:50 PM	44.4	42.2	2.1	4.5	-	43.9	39.9	8.9	
02:50 AM - 02:55 AM	38.0	55.9	2.1	4.5	-	55.5	39.0	17.5	
02:55 AM - 03:00 AM	45.6	47.5	2.1	4.5	-	48.1	39.9	9.2	
03:00 AM - 03:05 AM	44.3	45.5	2.1	4.5	-	45.1	39.0	4.1	
03:05 AM - 03:10 AM	40.8	42.1	2.1	4.5	-	40.8	39.1	11.4	
03:10 AM - 03:15 AM	44.2	40.1	2.1	4.5	-	43.7	38.9	2.8	



# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533977-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 2 of 3

Sample No. : 22147444-7  
Parameter : Noise  
Location : Uthairatanakul (N1) (GPS 47P 734053, 1432206)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirivut Ruangsom  
Sound Level Meter : 00296518

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:30 AM - 01:35 AM	51.4	52.0	51.4
01:35 AM - 01:40 AM	50.3	54.9	51.4
01:40 AM - 01:45 AM	50.4	46.0	51.4
01:45 AM - 01:50 AM	51.8	52.2	51.4
01:50 AM - 01:55 AM	50.2	57.6	51.4
01:55 AM - 02:00 AM	52.9	52.3	51.4
02:00 AM - 02:05 AM	53.6	54.2	51.4
02:05 AM - 02:10 AM	51.4	54.0	51.4
02:10 AM - 02:15 AM	52.9	51.3	51.4
02:15 AM - 02:20 AM	51.3	59.9	51.4
02:20 AM - 02:25 AM	50.3	56.9	51.4
02:25 AM - 02:30 AM	50.3	54.8	51.4
02:30 AM - 02:35 AM	51.3	54.8	51.4
02:35 AM - 02:40 AM	51.3	54.4	51.4
02:40 AM - 02:45 AM	50.3	57.5	51.4
02:45 AM - 02:50 AM	50.3	54.0	51.4
02:50 AM - 02:55 AM	50.3	61.1	51.4
02:55 AM - 03:00 AM	50.3	62.5	51.4
03:00 AM - 03:05 AM	51.3	60.6	51.4
03:05 AM - 03:10 AM	51.3	59.8	51.4
03:10 AM - 03:15 AM	50.3	62.7	51.4
03:15 AM - 03:20 AM	50.3	61.3	51.4
03:20 AM - 03:25 AM	50.3	61.3	51.4
03:25 AM - 03:30 AM	50.3	61.3	51.4
03:30 AM - 03:35 AM	50.3	61.3	51.4
03:35 AM - 03:40 AM	50.3	61.3	51.4
03:40 AM - 03:45 AM	50.3	61.3	51.4
03:45 AM - 03:50 AM	50.3	61.3	51.4
03:50 AM - 03:55 AM	50.3	61.3	51.4
03:55 AM - 04:00 AM	50.3	61.3	51.4
04:00 AM - 04:05 AM	50.3	61.3	51.4
04:05 AM - 04:10 AM	50.3	61.3	51.4
04:10 AM - 04:15 AM	50.3	61.3	51.4
04:15 AM - 04:20 AM	50.3	61.3	51.4
04:20 AM - 04:25 AM	50.3	61.3	51.4
04:25 AM - 04:30 AM	50.3	61.3	51.4
04:30 AM - 04:35 AM	50.3	61.3	51.4
04:35 AM - 04:40 AM	50.3	61.3	51.4
04:40 AM - 04:45 AM	50.3	61.3	51.4
04:45 AM - 04:50 AM	50.3	61.3	51.4
04:50 AM - 04:55 AM	50.3	61.3	51.4
04:55 AM - 05:00 AM	50.3	61.3	51.4
05:00 AM - 05:05 AM	50.3	61.3	51.4
05:05 AM - 05:10 AM	50.3	61.3	51.4
05:10 AM - 05:15 AM	50.3	61.3	51.4
05:15 AM - 05:20 AM	50.3	61.3	51.4
05:20 AM - 05:25 AM	50.3	61.3	51.4
05:25 AM - 05:30 AM	50.3	61.3	51.4
05:30 AM - 05:35 AM	50.3	61.3	51.4
05:35 AM - 05:40 AM	50.3	61.3	51.4
05:40 AM - 05:45 AM	50.3	61.3	51.4
05:45 AM - 05:50 AM	50.3	61.3	51.4
05:50 AM - 05:55 AM	50.3	61.3	51.4
05:55 AM - 06:00 AM	50.3	61.3	51.4
06:00 AM - 06:05 AM	50.3	61.3	51.4
06:05 AM - 06:10 AM	50.3	61.3	51.4
06:10 AM - 06:15 AM	50.3	61.3	51.4
06:15 AM - 06:20 AM	50.3	61.3	51.4
06:20 AM - 06:25 AM	50.3	61.3	51.4
06:25 AM - 06:30 AM	50.3	61.3	51.4
06:30 AM - 06:35 AM	50.3	61.3	51.4
06:35 AM - 06:40 AM	50.3	61.3	51.4
06:40 AM - 06:45 AM	50.3	61.3	51.4
06:45 AM - 06:50 AM	50.3	61.3	51.4
06:50 AM - 06:55 AM	50.3	61.3	51.4
06:55 AM - 07:00 AM	50.3	61.3	51.4
07:00 AM - 07:05 AM	50.3	61.3	51.4
07:05 AM - 07:10 AM	50.3	61.3	51.4
07:10 AM - 07:15 AM	50.3	61.3	51.4
07:15 AM - 07:20 AM	50.3	61.3	51.4
07:20 AM - 07:25 AM	50.3	61.3	51.4
07:25 AM - 07:30 AM	50.3	61.3	51.4
07:30 AM - 07:35 AM	50.3	61.3	51.4
07:35 AM - 07:40 AM	50.3	61.3	51.4
07:40 AM - 07:45 AM	50.3	61.3	51.4
07:45 AM - 07:50 AM	50.3	61.3	51.4
07:50 AM - 07:55 AM	50.3	61.3	51.4
07:55 AM - 08:00 AM	50.3	61.3	51.4
08:00 AM - 08:05 AM	50.3	61.3	51.4
08:05 AM - 08:10 AM	50.3	61.3	51.4
08:10 AM - 08:15 AM	50.3	61.3	51.4
08:15 AM - 08:20 AM	50.3	61.3	51.4
08:20 AM - 08:25 AM	50.3	61.3	51.4
08:25 AM - 08:30 AM	50.3	61.3	51.4
08:30 AM - 08:35 AM	50.3	61.3	51.4
08:35 AM - 08:40 AM	50.3	61.3	51.4
08:40 AM - 08:45 AM	50.3	61.3	51.4
08:45 AM - 08:50 AM	50.3	61.3	51.4
08:50 AM - 08:55 AM	50.3	61.3	51.4
08:55 AM - 09:00 AM	50.3	61.3	51.4
09:00 AM - 09:05 AM	50.3	61.3	51.4
09:05 AM - 09:10 AM	50.3	61.3	51.4
09:10 AM - 09:15 AM	50.3	61.3	51.4
09:15 AM - 09:20 AM	50.3	61.3	51.4
09:20 AM - 09:25 AM	50.3	61.3	51.4
09:25 AM - 09:30 AM	50.3	61.3	51.4
09:30 AM - 09:35 AM	50.3	61.3	51.4
09:35 AM - 09:40 AM	50.3	61.3	51.4
09:40 AM - 09:45 AM	50.3	61.3	51.4
09:45 AM - 09:50 AM	50.3	61.3	51.4
09:50 AM - 09:55 AM	50.3	61.3	51.4
09:55 AM - 10:00 AM	50.3	61.3	51.4
10:00 AM - 10:05 AM	50.3	61.3	51.4
10:05 AM - 10:10 AM	50.3	61.3	51.4
10:10 AM - 10:15 AM	50.3	61.3	51.4
10:15 AM - 10:20 AM	50.3	61.3	51.4
10:20 AM - 10:25 AM	50.3	61.3	51.4
10:25 AM - 10:30 AM	50.3	61.3	51.4
10:30 AM - 10:35 AM	50.3	61.3	51.4
10:35 AM - 10:40 AM	50.3	61.3	51.4
10:40 AM - 10:45 AM	50.3	61.3	51.4
10:45 AM - 10:50 AM	50.3	61.3	51.4
10:50 AM - 10:55 AM	50.3	61.3	51.4
10:55 AM - 11:00 AM	50.3	61.3	51.4
11:00 AM - 11:05 AM	50.3	61.3	51.4
11:05 AM - 11:10 AM	50.3	61.3	51.4
11:10 AM - 11:15 AM	50.3	61.3	51.4
11:15 AM - 11:20 AM	50.3	61.3	51.4
11:20 AM - 11:25 AM	50.3	61.3	51.4
11:25 AM - 11:30 AM	50.3	61.3	51.4
11:30 AM - 11:35 AM	50.3	61.3	51.4
11:35 AM - 11:40 AM	50.3	61.3	51.4
11:40 AM - 11:45 AM	50.3	61.3	51.4
11:45 AM - 11:50 AM	50.3	61.3	51.4
11:50 AM - 11:55 AM	50.3	61.3	51.4
11:55 AM - 12:00 AM	50.3	61.3	51.4
12:00 AM - 12:05 AM	50.3	61.3	51.4
12:05 AM - 12:10 AM	50.3	61.3	51.4
12:10 AM - 12:15 AM	50.3	61.3	51.4
12:15 AM - 12:20 AM	50.3	61.3	51.4
12:20 AM - 12:25 AM	50.3	61.3	51.4
12:25 AM - 12:30 AM	50.3	61.3	51.4

Reference Method : ISO 1996-1

- หมายเหตุ :
1. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบในห้องปฏิบัติการเท่านั้น ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
  2. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบในห้องปฏิบัติการเท่านั้น ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
  3. ข้อมูลที่ได้จากการทดสอบนี้ เป็นข้อมูลที่ได้จากการทดสอบในห้องปฏิบัติการเท่านั้น ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
- ฉบับนี้จัดทำขึ้นเพื่อใช้ในการอ้างอิงเท่านั้น ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Approved by

Wibab.  
Wibab Borik  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533977-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-1  
Parameter : Noise  
Location : Uthairatanakul (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sirivut Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	67.8	94.3	68.6
01:00 PM - 02:00 PM	65.7	91.8	67.8
02:00 PM - 03:00 PM	61.3	87.2	62.8
03:00 PM - 04:00 PM	62.7	87.7	63.8
04:00 PM - 05:00 PM	66.8	89.6	66.8
05:00 PM - 06:00 PM	66.7	87.1	66.7
06:00 PM - 07:00 PM	68.6	87.7	68.6
07:00 PM - 08:00 PM	68.2	90.1	68.2
08:00 PM - 09:00 PM	65.6	89.6	65.6
09:00 PM - 10:00 PM	65.9	89.6	65.9
10:00 PM - 10:55 PM	61.4	84.0	61.4
10:55 PM - 11:00 PM	58.9	80.2	58.9
11:00 PM - 11:15 PM	62.3	82.2	62.3
11:15 PM - 11:20 PM	63.3	86.8	63.3
11:20 PM - 11:25 PM	66.1	89.3	66.1
11:25 PM - 11:30 PM	65.1	82.4	65.1
11:30 PM - 11:35 PM	62.3	83.3	62.3
11:35 PM - 11:40 PM	65.5	77.5	65.5
11:40 PM - 11:45 PM	65.6	77.5	65.6
11:45 PM - 11:50 PM	65.6	77.5	65.6
11:50 PM - 11:55 PM	65.6	77.5	65.6
11:55 PM - 12:00 PM	65.6	77.5	65.6
12:00 PM - 12:05 PM	65.6	77.5	65.6
12:05 PM - 12:10 PM	65.6	77.5	65.6
12:10 PM - 12:15 PM	65.6	77.5	65.6
12:15 PM - 12:20 PM	65.6	77.5	65.6
12:20 PM - 12:25 PM	65.6	77.5	65.6
12:25 PM - 12:30 PM	65.6	77.5	65.6

Approved by

Wibab.  
Wibab Borik  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533977-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 2 of 3

Sample No. : 22147448-1  
Parameter : Noise  
Location : Uthairatanakul (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sirivut Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	49.9	73.7	49.6
12:35 AM - 12:40 AM	47.3	68.7	46.2
12:40 AM - 12:45 AM	52.8	78.5	50.3
12:45 AM - 12:50 AM	47.3	53.4	46.7
12:50 AM - 12:55 AM	41.9	47.3	39.7
12:55 AM - 01:00 AM	45.1	63.9	39.7
01:00 AM - 01:05 AM	41.9	48.1	39.3
01:05 AM - 01:10 AM	46.3	70.3	38.6
01:10 AM - 01:15 AM	51.2	73.3	38.2
01:15 AM - 01:20 AM	51.4	73.8	37.9
01:20 AM - 01:25 AM	39.3	45.8	38.4
01:25 AM - 01:30 AM	39.3	45.0	38.6
01:30 AM - 01:35 AM	41.2	47.6	38.9
01:35 AM - 01:40 AM	45.3	67.5	38.4
01:40 AM - 01:45 AM	46.3	48.9	38.4
01:45 AM - 01:50 AM	38.0	41.8	38.2
01:50 AM - 01:55 AM	41.1	53.5	37.9
01:55 AM - 02:00 AM	41.4	53.6	38.6
02:00 AM - 02:05 AM	41.0	46.2	38.7
02:05 AM - 02:10 AM	47.7	72.2	39.4
02:10 AM - 02:15 AM	37.7	75.3	37.4
02:15 AM - 02:20 AM	41.2	46.5	39.3
02:20 AM - 02:25 AM	42.2	47.6	38.5
02:25 AM - 02:30 AM	53.3	73.8	39.4
02:30 AM - 02:35 AM	46.6	46.1	38.1
02:35 AM - 02:40 AM	40.3	44.8	38.4
02:40 AM - 02:45 AM	50.2	73.3	37.3
02:45 AM - 02:50 AM	50.3	73.5	38.6
02:50 AM - 02:55 AM	37.3	77.3	37.3
02:55 AM - 03:00 AM	46.2	71.6	37.5
03:00 AM - 03:05 AM	41.1	52.9	37.6
03:05 AM - 03:10 AM	32.7	76.0	38.4
03:10 AM - 03:15 AM	40.2	75.8	37.9
03:15 AM - 03:20 AM	47.7	70.1	37.3
03:20 AM - 03:25 AM	56.6	86.5	38.6
03:25 AM - 03:30 AM	34.8	76.3	38.7
03:30 AM - 03:35 AM	40.9	49.9	38.2
03:35 AM - 03:40 AM	56.6	77.2	38.7
03:40 AM - 03:45 AM	40.6	45.9	38.6
03:45 AM - 03:50 AM	40.0	48.6	38.3



## Analysis / Test Report



TESTING  
No.0042

Client : Rajana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-2  
Parameter : Noise  
Location : d'ur'uanvavulau (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 20 - 21, 2022  
Measurement by : Sivak Rungsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	66.9	70.8	67.8
01:00 PM - 02:00 PM	66.9	69.3	66.3
02:00 PM - 03:00 PM	67.5	71.0	67.5
03:00 PM - 04:00 PM	68.0	72.4	67.7
04:00 PM - 05:00 PM	67.3	70.8	67.5
05:00 PM - 06:00 PM	68.7	70.1	69.7
06:00 PM - 07:00 PM	68.7	71.0	67.4
07:00 PM - 08:00 PM	68.5	69.8	67.8
08:00 PM - 09:00 PM	67.2	70.8	67.3
09:00 PM - 10:00 PM	67.8	71.1	67.5
10:00 PM - 11:00 PM	68.2	70.9	67.3
11:00 PM - 12:00 AM	67.1	69.3	66.5
12:00 AM - 01:00 AM	67.7	69.3	67.2
01:00 AM - 02:00 AM	64.7	68.0	66.3
02:00 AM - 03:00 AM	61.9	66.9	64.5
03:00 AM - 04:00 AM	58.3	70.3	60.7
04:00 AM - 05:00 AM	54.7	70.3	57.2
05:00 AM - 06:00 AM	51.1	69.4	54.7
06:00 AM - 07:00 AM	58.3	72.3	60.8
07:00 AM - 08:00 AM	54.7	72.6	60.0
08:00 AM - 09:00 AM	61.2	73.8	63.8
09:00 AM - 10:00 AM	54.8	73.8	61.8
10:00 AM - 11:00 AM	60.8	76.9	63.4
11:00 AM - 12:00 PM	70.5	77.5	70.5
12:00 PM - 01:00 PM	58.3	75.9	62.1
01:00 PM - 02:00 PM	64.4	70.7	62.5
02:00 PM - 03:00 PM	57.1	68.6	57.9
03:00 PM - 04:00 PM	58.9	69.1	60.8
04:00 PM - 05:00 PM	54.9	70.5	61.1
05:00 PM - 06:00 PM	57.0	68.7	61.0
06:00 PM - 07:00 PM	56.3	69.4	61.4
07:00 PM - 08:00 PM	58.7	70.5	61.8
08:00 PM - 09:00 PM	63.8	70.3	64.4
09:00 PM - 10:00 PM	53.8	70.3	61.7
10:00 PM - 11:00 PM	57.1	69.6	61.2
11:00 PM - 12:00 AM	53.1	71.9	58.5
12:00 AM - 01:00 AM	43.9	71.1	52.1
01:00 AM - 02:00 AM	51.3	71.1	52.1
02:00 AM - 03:00 AM	43.8	61.5	41.7
03:00 AM - 04:00 AM	25.7	70.0	40.2
04:00 AM - 05:00 AM	31.8	70.4	41.0

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Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rajana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-2  
Parameter : Noise  
Location : d'ur'uanvavulau (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 20 - 21, 2022  
Measurement by : Sivak Rungsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	57.4	78.5	61.5
01:00 AM - 02:00 AM	57.4	75.4	60.2
02:00 AM - 03:00 AM	57.9	77.0	60.3
03:00 AM - 04:00 AM	54.1	78.1	57.6
04:00 AM - 05:00 AM	48.4	71.6	49.6
05:00 AM - 06:00 AM	51.8	70.5	49.9
06:00 AM - 07:00 AM	46.9	69.7	46.3
07:00 AM - 08:00 AM	48.5	67.0	46.2
08:00 AM - 09:00 AM	51.8	74.4	50.1
09:00 AM - 10:00 AM	50.1	73.2	48.1
10:00 AM - 11:00 AM	53.1	75.5	51.2
11:00 AM - 12:00 PM	42.0	67.4	42.0
12:00 PM - 01:00 PM	48.8	69.1	46.0
01:00 PM - 02:00 PM	58.8	68.8	50.8
02:00 PM - 03:00 AM	55.6	66.6	45.6
03:00 AM - 04:00 AM	54.3	75.8	50.2
04:00 AM - 05:00 AM	42.2	68.7	35.4
05:00 AM - 06:00 AM	53.1	74.0	51.3
06:00 AM - 07:00 AM	47.4	66.7	39.1
07:00 AM - 08:00 AM	57.7	72.9	50.8
08:00 AM - 09:00 AM	61.7	69.7	58.2
09:00 AM - 10:00 AM	45.2	57.3	41.8
10:00 AM - 11:00 AM	60.5	61.9	52.1
11:00 AM - 12:00 PM	32.8	74.7	41.6
12:00 PM - 01:00 AM	50.7	70.0	41.4
01:00 AM - 02:00 AM	58.1	61.1	41.0
02:00 AM - 03:00 AM	54.9	77.0	40.9
03:00 AM - 04:00 AM	42.5	61.7	36.7
04:00 AM - 05:00 AM	57.8	79.3	49.7
05:00 AM - 06:00 AM	58.3	76.4	42.2
06:00 AM - 07:00 AM	65.8	68.1	51.2
07:00 AM - 08:00 AM	41.8	64.4	40.4
08:00 AM - 09:00 AM	51.0	74.4	40.4
09:00 AM - 10:00 AM	47.1	61.8	41.2
10:00 AM - 11:00 AM	52.3	74.7	48.9
11:00 AM - 12:00 PM	35.4	77.1	41.5
12:00 PM - 01:00 AM	52.7	70.8	41.5
01:00 AM - 02:00 AM	69.7	51.8	41.7
02:00 AM - 03:00 AM	42.2	60.2	40.4

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Approved by

*Wibb.*

Wibb.  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rajana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-2  
Parameter : Noise  
Location : d'ur'uanvavulau (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Sivak Rungsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 AM - 02:00 AM	51.6	62.4	41.3
02:00 AM - 03:00 AM	51.5	74.3	41.4
03:00 AM - 04:00 AM	59.2	60.7	41.6
04:00 AM - 05:00 AM	45.9	48.9	41.0
05:00 AM - 06:00 AM	45.2	59.8	41.8
06:00 AM - 07:00 AM	62.7	64.0	41.3
07:00 AM - 08:00 AM	53.9	72.6	40.8
08:00 AM - 09:00 AM	55.8	67.7	40.2
09:00 AM - 10:00 AM	51.7	72.8	42.4
10:00 AM - 11:00 AM	61.2	85.4	51.7
11:00 AM - 12:00 PM	60.5	82.4	41.8
12:00 PM - 01:00 AM	58.1	62.7	42.4
01:00 AM - 02:00 AM	46.8	61.3	41.7
02:00 AM - 03:00 AM	46.8	61.8	41.2
03:00 AM - 04:00 AM	58.9	61.5	40.5
04:00 AM - 05:00 AM	51.5	73.3	42.1
05:00 AM - 06:00 AM	61.3	60.8	42.3
06:00 AM - 07:00 AM	53.2	70.9	40.7
07:00 AM - 08:00 AM	46.0	58.0	42.5
08:00 AM - 09:00 AM	60.2	55.9	44.3
09:00 AM - 10:00 AM	63.0	62.5	41.7
10:00 AM - 11:00 AM	62.5	60.2	43.3
11:00 AM - 12:00 PM	53.9	61.8	43.3
12:00 PM - 01:00 AM	62.6	62.7	43.3
01:00 AM - 02:00 AM	61.9	60.9	42.8
02:00 AM - 03:00 AM	67.2	68.2	44.8
03:00 AM - 04:00 AM	57.5	66.4	50.3
04:00 AM - 05:00 AM	68.0	61.1	50.2
05:00 AM - 06:00 AM	67.8	60.1	49.3
06:00 AM - 07:00 AM	68.6	65.8	49.5
07:00 AM - 08:00 AM	68.1	68.8	47.8
08:00 AM - 09:00 AM	62.4	68.9	43.8

Reference Method : ISO 1996-1

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Approved by

*Wibb.*

Wibb.  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rajana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-2  
Parameter : Noise  
Location : d'ur'uanvavulau (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Sivak Rungsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	63.3	69.4	61.8
01:00 PM - 02:00 PM	62.1	65.9	62.9
02:00 PM - 03:00 PM	62.5	67.4	62.4
03:00 PM - 04:00 PM	60.9	69.9	61.0
04:00 PM - 05:00 PM	62.9	64.3	58.3
05:00 PM - 06:00 PM	62.9	68.8	62.6
06:00 PM - 07:00 PM	65.1	68.1	60.2
07:00 PM - 08:00 PM	64.4	68.2	60.9
08:00 PM - 09:00 PM	64.4	64.4	60.8
09:00 PM - 10:00 PM	61.7	65.6	61.6
10:00 PM - 11:00 PM	61.9	65.0	61.3
11:00 PM - 12:00 AM	60.1	75.8	64.4
12:00 AM - 01:00 AM	61.5	61.5	61.8
01:00 AM - 02:00 AM	57.2	79.4	61.5
02:00 AM - 03:00 AM	59.5	70.6	64.1
03:00 AM - 04:00 AM	51.4	63.1	41.1
04:00 AM - 05:00 PM	58.0	61.3	41.7
05:00 PM - 06:00 PM	58.1	77.0	42.6
06:00 PM - 07:00 PM	58.8	61.5	42.6
07:00 PM - 08:00 PM	60.3	78.4	43.1
08:00 PM - 09:00 AM	60.4	78.0	43.0
09:00 AM - 10:00 PM	54.4	64.4	43.4
10:00 PM - 11:00 PM	58.5	64.4	41.8
11:00 PM - 12:00 AM	51.0	71.0	40.2
12:00 AM - 01:00 PM	53.7	60.3	41.3
01:00 PM - 02:00 PM	54.4	64.4	41.8
02:00 PM - 03:00 PM	54.6	64.4	41.8
03:00 PM - 04:00 PM	61.2	79.4	42.9
04:00 PM - 05:00 PM	54.9	73.0	43.0
05:00 PM - 06:00 PM	57.8	78.4	43.0
06:00 PM - 07:00 AM	58.9	79.9	41.1
07:00 AM - 08:00 AM	64.6	61.5	60.7
08:00 AM - 09:00 AM	61.2	81.5	61.2
09:00 AM - 10:00 AM	53.3	72.8	40.3
10:00 AM - 11:00 AM	60.2	80.4	40.4
11:00 AM - 12:00 PM	52.4	78.9	39.7

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Approved by

*Wibb.*

Wibb.  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-3  
Parameter : Noise  
Location : Uthutavasilou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Siriwit Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	54.8	79.1	59.5
12:35 AM - 12:40 AM	56.5	79.9	59.5
12:40 AM - 12:45 AM	42.1	53.9	42.1
12:45 AM - 12:50 AM	42.0	57.2	40.8
12:50 AM - 12:55 AM	33.9	74.8	36.3
12:55 AM - 01:00 AM	59.2	81.2	59.1
01:00 AM - 01:05 AM	39.4	44.2	38.1
01:05 AM - 01:10 AM	55.4	78.8	55.9
01:10 AM - 01:15 AM	44.0	77.2	44.4
01:15 AM - 01:20 AM	40.1	46.4	38.7
01:20 AM - 01:25 AM	52.1	75.3	52.3
01:25 AM - 01:30 AM	39.4	44.4	38.1
01:30 AM - 01:35 AM	37.2	79.8	38.3
01:35 AM - 01:40 AM	52.7	77.6	52.8
01:40 AM - 01:45 AM	40.8	71.1	38.3
01:45 AM - 01:50 AM	53.2	77.9	53.7
01:50 AM - 01:55 AM	46.9	58.6	39.0
01:55 AM - 02:00 AM	52.1	70.5	52.3
02:00 AM - 02:05 AM	50.5	64.0	39.3
02:05 AM - 02:10 AM	41.8	51.4	39.1
02:10 AM - 02:15 AM	49.1	69.4	50.2
02:15 AM - 02:20 AM	39.8	46.0	38.6
02:20 AM - 02:25 AM	46.1	66.7	39.4
02:25 AM - 02:30 AM	61.4	83.7	59.5
02:30 AM - 02:35 AM	41.8	46.9	41.9
02:35 AM - 02:40 AM	46.2	20.0	38.9
02:40 AM - 02:45 AM	44.2	45.9	44.3
02:45 AM - 02:50 AM	40.3	55.8	44.8
02:50 AM - 02:55 AM	45.9	51.9	44.8
02:55 AM - 03:00 AM	38.0	79.3	38.1
03:00 AM - 03:05 AM	40.2	55.8	38.4
03:05 AM - 03:10 AM	61.1	77.5	61.2
03:10 AM - 03:15 AM	45.3	49.7	41.7
03:15 AM - 03:20 AM	51.7	79.8	41.3
03:20 AM - 03:25 AM	59.1	81.8	45.1
03:25 AM - 03:30 AM	68.4	72.2	43.5
03:30 AM - 03:35 AM	47.9	51.3	43.3
03:35 AM - 03:40 AM	52.6	76.7	43.3
03:40 AM - 03:45 AM	53.0	52.9	43.3
03:45 AM - 03:50 AM	43.9	54.8	42.6

Approved by

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Sample No. : 22147448-3



# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533979-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-3  
Parameter : Noise  
Location : Uthutavasilou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Siriwit Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	50.4	70.7	43.1
03:55 AM - 04:00 AM	48.9	73.9	43.1
04:00 AM - 04:05 AM	41.3	50.6	37.3
04:05 AM - 04:10 AM	34.3	27.0	34.3
04:10 AM - 04:15 AM	51.3	80.9	44.0
04:15 AM - 04:20 AM	71.3	74.9	38.0
04:20 AM - 04:25 AM	64.5	68.2	46.7
04:25 AM - 04:30 AM	45.9	63.0	45.1
04:30 AM - 04:35 AM	39.8	65.0	46.4
04:35 AM - 04:40 AM	60.0	63.1	46.4
04:40 AM - 04:45 AM	60.9	62.9	46.1
04:45 AM - 04:50 AM	61.2	62.9	47.9
04:50 AM - 04:55 AM	61.3	62.4	45.2
04:55 AM - 05:00 AM	60.9	64.1	46.1
05:00 AM - 05:05 AM	61.4	60.7	48.0
05:05 AM - 05:10 AM	54.3	73.3	48.3
05:10 AM - 05:15 AM	58.8	78.8	48.3
05:15 AM - 05:20 AM	54.2	72.8	48.2
05:20 AM - 05:25 AM	60.9	79.1	47.9
05:25 AM - 05:30 AM	64.8	87.6	47.7
05:30 AM - 05:35 AM	51.7	78.4	47.7
05:35 AM - 05:40 AM	51.7	62.9	46.1
05:40 AM - 05:45 AM	59.3	81.9	47.6
05:45 AM - 05:50 AM	65.5	85.1	46.8
05:50 AM - 05:55 AM	63.3	83.0	47.6
05:55 AM - 06:00 AM	62.4	82.1	47.8
06:00 AM - 06:05 AM	66.8	90.7	48.6
06:05 AM - 06:10 AM	66.8	90.3	48.5
06:10 AM - 06:15 AM	67.4	99.8	51.3
06:15 AM - 06:20 AM	66.2	89.3	48.4
06:20 AM - 06:25 AM	66.8	89.3	48.0
06:25 AM - 06:30 AM	66.8	89.3	46.7

Reference Method : ISO 1996-1

Approved by

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533980-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-4  
Parameter : Noise  
Location : Uthutavasilou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Siriwit Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 12:05 PM	63.9	80.6	61.7
12:05 PM - 12:10 PM	62.3	85.6	62.8
12:10 PM - 12:15 PM	61.8	85.0	59.0
12:15 PM - 12:20 PM	61.6	84.5	58.9
12:20 PM - 12:25 PM	63.0	82.1	58.5
12:25 PM - 12:30 PM	60.9	80.5	60.4
12:30 PM - 12:35 PM	66.9	86.4	60.4
12:35 PM - 12:40 PM	65.1	91.2	60.9
12:40 PM - 12:45 PM	64.2	82.0	56.0
12:45 PM - 12:50 PM	61.6	82.5	61.3
12:50 PM - 12:55 PM	60.9	78.0	60.0
12:55 PM - 01:00 PM	61.7	75.0	47.6
01:00 PM - 01:05 PM	59.4	78.8	54.7
01:05 PM - 01:10 PM	59.6	79.1	43.6
01:10 PM - 01:15 PM	60.0	81.1	44.8
01:15 PM - 01:20 PM	60.9	78.9	44.5
01:20 PM - 01:25 PM	55.7	75.1	43.8
01:25 PM - 01:30 PM	60.5	82.4	43.5
01:30 PM - 01:35 PM	57.9	79.7	46.2
01:35 PM - 01:40 PM	56.8	77.7	46.2
01:40 PM - 01:45 PM	67.3	90.3	61.5
01:45 PM - 01:50 PM	57.3	76.7	45.7
01:50 PM - 01:55 PM	56.4	78.2	41.8
01:55 PM - 02:00 PM	54.9	73.0	38.9
02:00 PM - 02:05 PM	60.4	81.8	49.7
02:05 PM - 02:10 PM	56.0	77.4	41.8
02:10 PM - 02:15 PM	61.5	84.2	51.3
02:15 PM - 02:20 PM	56.9	77.1	46.7
02:20 PM - 02:25 PM	51.3	74.1	45.4
02:25 PM - 02:30 PM	51.3	79.1	41.2
02:30 PM - 02:35 PM	52.2	79.2	41.5
02:35 PM - 02:40 PM	61.7	86.9	45.4
02:40 PM - 02:45 PM	56.4	72.8	46.7
02:45 PM - 02:50 PM	55.2	74.8	43.2
02:50 PM - 02:55 AM	55.5	74.0	43.0
02:55 AM - 03:00 AM	54.4	72.8	42.4
03:00 AM - 03:05 AM	58.5	79.1	41.4
03:05 AM - 03:10 AM	56.3	81.9	40.6
03:10 AM - 03:15 AM	55.2	79.1	40.6

Approved by

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533980-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-4  
Parameter : Noise  
Location : Uthutavasilou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Siriwit Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 PM - 12:35 PM	59.6	84.9	61.1
12:35 PM - 12:40 PM	41.2	43.9	40.0
12:40 PM - 12:45 PM	59.4	77.4	40.2
12:45 PM - 12:50 PM	60.4	81.0	40.3
12:50 PM - 12:55 PM	51.9	72.0	41.7
12:55 PM - 01:00 PM	50.2	66.4	41.4
01:00 AM - 01:05 AM	46.4	54.0	40.4
01:05 AM - 01:10 AM	41.3	63.1	41.1
01:10 AM - 01:15 AM	37.5	86.4	40.4
01:15 AM - 01:20 AM	48.7	66.0	41.4
01:20 AM - 01:25 AM	58.2	78.8	42.0
01:25 AM - 01:30 AM	59.7	82.5	42.8
01:30 AM - 01:35 AM	54.9	78.4	41.3
01:35 AM - 01:40 AM	54.6	78.3	41.2
01:40 AM - 01:45 AM	54.7	78.2	42.7
01:45 AM - 01:50 AM	44.5	56.9	40.4
01:50 AM - 01:55 AM	43.9	49.2	40.3
01:55 AM - 02:00 AM	56.4	60.4	39.6
02:00 AM - 02:05 AM	47.8	70.6	38.6
02:05 AM - 02:10 AM	56.4	75.0	40.6
02:10 AM - 02:15 AM	54.5	76.9	38.1
02:15 AM - 02:20 AM	53.3	79.5	39.2
02:20 AM - 02:25 AM	41.7	46.1	35.4
02:25 AM - 02:30 AM	54.5	76.7	39.9
02:30 AM - 02:35 AM	50.6	72.0	39.8
02:35 AM - 02:40 AM	41.8	61.6	39.6
02:40 AM - 02:45 AM	51.9	77.8	39.3
02:45 AM - 02:50 AM	40.4	45.4	39.2
02:50 AM - 02:55 AM	40.3	48.8	35.6
02:55 AM - 03:00 AM	48.2	63.2	40.1
03:00 AM - 03:05 AM	46.2	51.6	42.0
03:05 AM - 03:10 AM	35.5	79.3	40.8
03:10 AM - 03:15 AM	50.9	60.6	40.1
03:15 AM - 03:20 AM	33.2	79.7	39.9
03:20 AM - 03:25 AM	56.3	79.8	39.4
03:25 AM - 03:30 AM	51.7	72.6	39.9
03:30 AM - 03:35 AM	56.4	78.5	40.6
03:35 AM - 03:40 AM	56.2	56.2	39.7
03:40 AM - 03:45 AM	42.7	48.2	38.0
03:45 AM - 03:50 AM	52.0	72.6	38.0

Approved by

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Wibwan Borak  
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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533980-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-4  
Parameter : Noise  
Location : Shuwanvillou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Siriwat Ruangsoms  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 04:00 AM	31.9	73.4	30.2
04:00 AM - 04:10 AM	40.1	72.8	38.2
04:10 AM - 04:20 AM	31.8	76.9	37.5
04:20 AM - 04:30 AM	42.1	52.1	37.0
04:30 AM - 04:40 AM	51.8	76.4	37.2
04:40 AM - 04:50 AM	51.6	71.9	37.5
04:50 AM - 05:00 AM	49.7	71.2	36.7
05:00 AM - 05:10 AM	49.6	75.4	34.1
05:10 AM - 05:20 AM	54.1	73.0	36.7
05:20 AM - 05:30 AM	53.1	76.7	36.6
05:30 AM - 05:40 AM	40.7	71.0	36.5
05:40 AM - 05:50 AM	66.0	83.5	37.7
05:50 AM - 06:00 AM	57.4	76.4	37.8
06:00 AM - 06:10 AM	53.6	74.5	38.1
06:10 AM - 06:20 AM	53.9	74.8	39.4
06:20 AM - 06:30 AM	55.8	76.5	39.1
06:30 AM - 06:40 AM	46.5	66.7	39.2
06:40 AM - 06:50 AM	53.4	73.5	39.1
06:50 AM - 07:00 AM	47.7	69.7	39.3
07:00 AM - 07:10 AM	57.1	70.2	41.1
07:10 AM - 07:20 AM	61.7	64.5	42.1
07:20 AM - 07:30 AM	56.1	74.3	41.7
07:30 AM - 07:40 AM	56.8	74.8	41.3
07:40 AM - 07:50 AM	57.5	73.9	40.3
07:50 AM - 08:00 AM	61.0	79.0	41.7
08:00 AM - 08:10 AM	59.7	79.1	40.9
08:10 AM - 08:20 AM	63.7	83.2	40.3
08:20 AM - 08:30 AM	66.9	80.8	41.5
08:30 AM - 08:40 AM	65.9	89.0	40.7
08:40 AM - 08:50 AM	61.5	86.6	44.5
08:50 AM - 09:00 AM	61.0	86.7	43.6
09:00 AM - 09:10 AM	62.3	80.6	42.9

Reference Method : ISO 1996-1

Approved by

*Wibb.*  
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Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533981-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-5  
Parameter : Noise  
Location : Shuwanvillou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 24, 2022  
Measurement by : Siriwat Ruangsoms  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.0	88.4	41.4
01:00 PM - 02:00 PM	62.7	88.8	41.3
02:00 PM - 03:00 PM	62.3	89.9	39.8
03:00 PM - 04:00 PM	62.3	88.8	38.3
04:00 PM - 05:00 PM	62.4	90.4	42.9
05:00 PM - 06:00 PM	64.8	92.3	41.0
06:00 PM - 07:00 PM	63.7	87.1	41.6
07:00 PM - 08:00 PM	64.7	88.0	41.8
08:00 PM - 09:00 PM	63.6	92.1	41.0
09:00 PM - 10:00 PM	63.3	90.1	41.7
10:00 PM - 11:00 PM	57.9	74.1	41.5
11:00 PM - 12:00 PM	38.1	77.0	41.7
12:00 PM - 01:00 PM	62.5	80.5	42.7
01:00 PM - 02:00 PM	64.3	87.7	41.7
02:00 PM - 03:00 PM	56.4	75.6	41.5
03:00 PM - 04:00 PM	59.8	75.6	41.3
04:00 PM - 05:00 PM	54.0	75.9	42.2
05:00 PM - 06:00 PM	64.7	86.1	46.6
06:00 PM - 07:00 PM	54.0	85.5	46.2
07:00 PM - 08:00 PM	59.4	82.1	46.8
08:00 PM - 09:00 PM	63.8	85.6	41.3
09:00 PM - 10:00 PM	58.8	76.4	46.3
10:00 PM - 11:00 PM	51.1	63.3	41.5
11:00 PM - 12:00 PM	37.2	78.0	42.9
12:00 PM - 01:00 PM	54.6	72.1	42.9
01:00 PM - 02:00 PM	58.6	78.9	44.0
02:00 PM - 03:00 PM	58.2	75.7	41.3
03:00 PM - 04:00 PM	59.3	82.3	41.8
04:00 PM - 05:00 PM	57.5	75.7	42.3
05:00 PM - 06:00 PM	58.5	81.9	42.1
06:00 PM - 07:00 PM	53.5	77.3	42.2
07:00 PM - 08:00 PM	55.8	78.3	42.4
08:00 PM - 09:00 PM	55.8	75.8	42.0
09:00 PM - 10:00 PM	62.2	84.8	43.0
10:00 PM - 11:00 PM	49.3	72.8	41.3
11:00 PM - 12:00 PM	46.3	66.1	40.9
12:00 PM - 01:00 PM	43.1	51.2	40.7
01:00 PM - 02:00 PM	34.4	75.4	40.7
02:00 PM - 03:00 PM	45.8	52.9	41.6
03:00 PM - 04:00 PM	53.7	79.3	41.4

Approved by

*Wibb.*  
Wawan Borisk  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533981-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-5  
Parameter : Noise  
Location : Shuwanvillou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 24, 2022  
Measurement by : Siriwat Ruangsoms  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 01:00 AM	48.8	66.3	40.3
01:00 AM - 01:30 AM	43.9	52.3	39.7
01:30 AM - 02:00 AM	34.4	79.4	40.9
02:00 AM - 02:30 AM	42.2	60.6	38.2
02:30 AM - 03:00 AM	58.5	81.8	41.2
03:00 AM - 03:30 AM	46.2	83.9	40.3
03:30 AM - 04:00 AM	56.5	72.4	39.4
04:00 AM - 04:30 AM	53.8	75.8	40.3
04:30 AM - 05:00 AM	41.6	53.3	39.9
05:00 AM - 05:30 AM	53.8	76.7	40.9
05:30 AM - 06:00 AM	47.9	70.5	40.1
06:00 AM - 06:30 AM	49.6	69.1	40.8
06:30 AM - 07:00 AM	46.4	52.7	40.7
07:00 AM - 07:30 AM	54.1	71.5	41.2
07:30 AM - 08:00 AM	47.0	53.2	41.3
08:00 AM - 08:30 AM	47.1	52.2	41.0
08:30 AM - 09:00 AM	56.3	78.1	41.9
09:00 AM - 09:30 AM	53.7	73.3	41.8
09:30 AM - 10:00 AM	50.1	70.9	40.9
10:00 AM - 10:30 AM	52.3	74.6	40.7
10:30 AM - 11:00 AM	52.3	77.4	40.8
11:00 AM - 11:30 AM	54.3	75.5	40.3
11:30 AM - 12:00 AM	46.5	85.4	40.6
12:00 AM - 12:30 AM	41.0	65.4	41.1
12:30 AM - 01:00 AM	40.3	43.9	39.3
01:00 AM - 01:30 AM	47.0	71.4	39.1
01:30 AM - 02:00 AM	47.8	71.3	39.3
02:00 AM - 02:30 AM	53.0	77.4	38.6
02:30 AM - 03:00 AM	50.9	74.3	39.3
03:00 AM - 03:30 AM	57.6	80.1	39.3
03:30 AM - 04:00 AM	53.5	78.7	39.8
04:00 AM - 04:30 AM	54.6	74.4	39.8
04:30 AM - 05:00 AM	68.2	92.0	40.6

Approved by

*Wibb.*  
Wawan Borisk  
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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533981-1

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :  
Sample No. : 22147448-5  
Parameter : Noise  
Location : Shuwanvillou (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 22 - 24, 2022  
Measurement by : Siriwat Ruangsoms  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 04:00 AM	58.2	75.8	40.3
04:00 AM - 04:10 AM	57.1	79.7	40.8
04:10 AM - 04:20 AM	55.8	88.8	39.8
04:20 AM - 04:30 AM	58.2	79.2	40.1
04:30 AM - 04:40 AM	56.9	77.1	41.5
04:40 AM - 04:50 AM	57.6	73.6	40.8
04:50 AM - 05:00 AM	55.5	72.7	42.4
05:00 AM - 05:10 AM	61.2	82.7	40.5
05:10 AM - 05:20 AM	59.2	83.1	39.7
05:20 AM - 05:30 AM	57.2	80.1	40.7
05:30 AM - 05:40 AM	60.5	76.4	42.5
05:40 AM - 05:50 AM	60.4	76.7	40.9
05:50 AM - 06:00 AM	60.1	80.3	41.0
06:00 AM - 06:10 AM	65.0	81.4	41.5
06:10 AM - 06:20 AM	60.1	80.1	41.1
06:20 AM - 06:30 AM	64.2	84.7	42.0
06:30 AM - 06:40 AM	63.8	81.0	44.1
06:40 AM - 06:50 AM	64.3	82.7	43.2
06:50 AM - 07:00 AM	65.5	79.2	43.7
07:00 AM - 07:10 AM	67.2	91.0	44.6
07:10 AM - 07:20 AM	65.1	85.0	42.3
07:20 AM - 07:30 AM	63.8	80.4	41.6
07:30 AM - 07:40 AM	65.3	85.3	44.1
07:40 AM - 07:50 AM	65.1	87.7	41.8
07:50 AM - 08:00 AM	64.7	77.7	41.3
08:00 AM - 08:10 AM	67.7	82.5	42.0
08:10 AM - 08:20 AM	64.4	84.4	41.6
08:20 AM - 08:30 AM	45.0	88.7	44.2
08:30 AM - 08:40 AM	61.7	88.6	43.3
08:40 AM - 08:50 AM	51.9	88.3	42.7
08:50 AM - 09:00 PM	64.6	81.8	47.0

Reference Method : ISO 1996-1

Approved by

*Wibb.*  
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Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533982-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 2

Sample No. : 22147448-6  
Parameter : Noise  
Location : s'ruksanvillu (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : S'ruksanvillu  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.7	82.7	43.8
01:00 PM - 02:00 PM	63.9	89.2	42.8
02:00 PM - 03:00 PM	62.1	85.1	41.1
03:00 PM - 04:00 PM	64.8	87.0	46.4
04:00 PM - 05:00 PM	65.9	87.4	46.0
05:00 PM - 06:00 PM	65.5	86.2	47.3
06:00 PM - 07:00 PM	64.7	82.9	40.8
07:00 PM - 08:00 PM	61.6	84.4	35.7
08:00 PM - 09:00 PM	63.0	89.0	44.4
09:00 PM - 10:00 PM	61.0	84.4	34.2
10:00 PM - 10:45 PM	58.3	77.5	33.4
10:45 PM - 11:00 PM	48.4	64.9	42.4
11:00 PM - 11:15 PM	55.5	72.7	41.1
11:15 PM - 11:30 PM	59.5	78.5	41.8
11:30 PM - 11:45 PM	56.9	86.1	42.1
11:45 PM - 11:55 PM	57.7	84.1	42.1
11:55 PM - 12:00 PM	61.2	81.2	42.3
12:00 PM - 12:15 PM	62.3	81.2	42.3
12:15 PM - 12:30 PM	53.9	77.4	42.8
12:30 PM - 12:45 PM	56.0	78.0	42.9
12:45 PM - 12:55 PM	57.7	78.4	41.3
12:55 PM - 1:00 PM	58.5	79.6	41.0
1:00 PM - 1:15 PM	54.0	75.3	40.3
1:15 PM - 1:30 PM	57.3	78.8	41.9
1:30 PM - 1:45 PM	61.9	82.3	42.1
1:45 PM - 1:55 PM	57.9	77.2	41.0
1:55 PM - 2:00 PM	52.1	72.1	41.0
2:00 PM - 2:15 PM	58.4	76.9	40.9
2:15 PM - 2:30 PM	59.8	82.0	40.9
2:30 PM - 2:45 PM	57.9	78.1	41.2
2:45 PM - 2:55 PM	59.4	77.1	41.4
2:55 PM - 3:00 PM	63.7	85.6	41.5
3:00 PM - 3:15 PM	56.1	75.9	40.8
3:15 PM - 3:30 PM	56.4	79.9	41.2
3:30 PM - 3:45 PM	61.9	84.2	41.1
3:45 PM - 3:55 PM	42.8	51.0	40.9
3:55 PM - 4:00 PM	54.1	64.1	41.1
4:00 PM - 4:15 PM	58.9	79.9	41.2
4:15 PM - 4:30 PM	55.3	78.6	40.9
4:30 PM - 4:45 PM	55.1	78.6	41.1

The above results are valid only for the period and location specified in this report. The results are not valid for any other location or time period. The results are not valid for any other purpose. The results are not valid for any other use.

Approved by

Wibab.

Wibab Borik  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533982-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-6

Parameter : Noise  
Location : s'ruksanvillu (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : S'ruksanvillu  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 12:15 AM	54.3	76.2	41.3
12:15 AM - 12:30 AM	51.4	72.1	40.6
12:30 AM - 12:45 AM	56.4	80.9	46.1
12:45 AM - 12:55 AM	54.3	77.8	40.8
12:55 AM - 01:00 AM	47.8	58.0	39.3
01:00 AM - 01:05 AM	49.1	68.0	39.6
01:05 AM - 01:10 AM	51.5	71.4	38.1
01:10 AM - 01:15 AM	40.8	48.1	38.7
01:15 AM - 01:20 AM	52.8	73.5	39.3
01:20 AM - 01:25 AM	42.9	53.0	38.8
01:25 AM - 01:30 AM	51.5	68.2	39.6
01:30 AM - 01:35 AM	45.0	55.0	40.4
01:35 AM - 01:40 AM	40.3	46.0	39.2
01:40 AM - 01:45 AM	52.5	75.2	38.1
01:45 AM - 01:50 AM	56.1	83.5	38.2
01:50 AM - 01:55 AM	57.3	78.4	39.4
01:55 AM - 02:00 AM	50.9	74.5	39.3
02:00 AM - 02:05 AM	41.4	46.4	38.5
02:05 AM - 02:10 AM	41.4	46.9	38.7
02:10 AM - 02:15 AM	45.9	65.6	39.5
02:15 AM - 02:20 AM	51.6	78.0	37.5
02:20 AM - 02:25 AM	52.4	75.2	37.9
02:25 AM - 02:30 AM	58.8	80.9	38.6
02:30 AM - 02:35 AM	52.4	71.7	38.5
02:35 AM - 02:40 AM	58.3	80.2	39.3
02:40 AM - 02:45 AM	55.9	75.5	38.6
02:45 AM - 02:50 AM	55.9	73.9	38.1
02:50 AM - 02:55 AM	51.8	66.8	39.3
02:55 AM - 03:00 AM	56.0	80.0	39.2
03:00 AM - 03:05 AM	51.4	75.2	38.1
03:05 AM - 03:10 AM	41.2	50.8	38.1
03:10 AM - 03:15 AM	41.3	51.4	38.8
03:15 AM - 03:20 AM	54.6	78.3	39.9
03:20 AM - 03:25 AM	48.8	64.9	38.1
03:25 AM - 03:30 AM	50.1	75.4	38.3
03:30 AM - 03:35 AM	58.8	82.3	39.2
03:35 AM - 03:40 AM	40.9	48.1	38.1
03:40 AM - 03:45 AM	53.1	73.1	37.5
03:45 AM - 03:50 AM	61.8	84.8	37.8
03:50 AM - 03:55 AM	62.9	82.6	41.8

The above results are valid only for the period and location specified in this report. The results are not valid for any other location or time period. The results are not valid for any other purpose. The results are not valid for any other use.

Approved by

Wibab.

Wibab Borik  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533982-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Page 1 of 2

Sample No. : 22147448-6  
Parameter : Noise  
Location : s'ruksanvillu (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : S'ruksanvillu  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 AM - 01:15 AM	42.7	59.4	37.9
01:15 AM - 01:30 AM	46.5	70.9	38.6
01:30 AM - 01:45 AM	50.7	69.2	38.9
01:45 AM - 01:55 AM	37.9	58.5	38.7
01:55 AM - 02:00 AM	55.3	72.9	38.4
02:00 AM - 02:05 AM	52.0	59.6	38.6
02:05 AM - 02:10 AM	56.5	80.7	41.0
02:10 AM - 02:15 AM	41.4	53.3	38.9
02:15 AM - 02:20 AM	58.7	79.6	39.2
02:20 AM - 02:25 AM	56.1	74.8	39.4
02:25 AM - 02:30 AM	57.8	78.8	39.8
02:30 AM - 02:35 AM	54.3	76.6	39.6
02:35 AM - 02:40 AM	60.6	81.1	40.9
02:40 AM - 02:45 AM	57.9	78.5	39.1
02:45 AM - 02:50 AM	54.3	76.6	39.6
02:50 AM - 02:55 AM	60.6	81.1	40.9
02:55 AM - 03:00 AM	55.5	78.5	39.1
03:00 AM - 03:05 AM	53.5	72.0	39.2
03:05 AM - 03:10 AM	58.2	78.9	38.8
03:10 AM - 03:15 AM	56.8	75.5	39.4
03:15 AM - 03:20 AM	58.1	79.9	40.3
03:20 AM - 03:25 AM	60.4	81.3	40.2
03:25 AM - 03:30 AM	62.2	81.0	41.1
03:30 AM - 03:35 AM	57.8	81.5	41.8
03:35 AM - 03:40 AM	58.1	78.1	42.5
03:40 AM - 03:45 AM	62.2	84.1	41.9
03:45 AM - 03:50 AM	61.4	78.2	42.4
03:50 AM - 03:55 AM	61.9	80.5	43.2
03:55 AM - 04:00 AM	44.5	60.2	43.2
04:00 AM - 04:05 AM	58.3	81.1	40.8
04:05 AM - 04:10 AM	58.3	81.1	40.8
04:10 AM - 04:15 AM	68.1	93.8	46.2
04:15 AM - 04:20 AM	65.0	91.1	43.6
04:20 AM - 04:25 AM	65.0	90.8	43.6
04:25 AM - 04:30 AM	65.0	91.1	43.3
04:30 AM - 04:35 AM	63.1	84.3	43.3

Reference Method : ISO 1996-1

The above results are valid only for the period and location specified in this report. The results are not valid for any other location or time period. The results are not valid for any other purpose. The results are not valid for any other use.

Approved by

Wibab.

Wibab Borik  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533982-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-7

Parameter : Noise  
Location : s'ruksanvillu (N1) (GPS 47P 734053, 1432206) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : S'ruksanvillu  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.4	86.5	43.4
01:00 PM - 02:00 PM	61.0	81.8	40.5
02:00 PM - 03:00 PM	63.9	81.1	41.2
03:00 PM - 04:00 PM	63.9	81.7	41.7
04:00 PM - 05:00 PM	65.0	83.0	41.2
05:00 PM - 06:00 PM	63.7	87.3	46.1
06:00 PM - 07:00 PM	64.7	87.9	46.7
07:00 PM - 08:00 PM	64.7	87.9	46.7
08:00 PM - 09:00 PM	64.7	87.9	46.7
09:00 PM - 10:00 PM	64.7	87.9	46.7
10:00 PM - 10:45 PM	58.7	78.9	41.9
10:45 PM - 11:00 PM	54.2	72.7	42.4
11:00 PM - 11:15 PM	51.7	77.2	41.4
11:15 PM - 11:30 PM	53.8	77.4	41.7
11:30 PM - 11:45 PM	51.8	77.4	42.1
11:45 PM - 11:55 PM	48.2	67.3	42.9
11:55 PM - 12:00 PM	55.4	78.4	39.2
12:00 PM - 12:05 PM	55.9	78.4	39.2
12:05 PM - 12:10 PM	55.9	78.4	39.2
12:10 PM - 12:15 PM	64.3	80.1	38.9
12:15 PM - 12:20 PM	60.1	74.6	38.9
12:20 PM - 12:25 PM	48.8	71.8	38.7
12:25 PM - 12:30 PM	51.0	71.0	39.3
12:30 PM - 12:35 PM	47.2	51.3	40.2
12:35 PM - 12:40 PM	48.1	62.9	39.6
12:40 PM - 12:45 PM	52.4	74.9	40.2
12:45 PM - 12:50 PM	50.3	71.7	40.2
12:50 PM - 12:55 PM	47.9	70.4	40.0
12:55 PM - 1:00 PM	52.0	74.3	39.3
1:00 PM - 1:05 PM	50.4	72.8	39.4
1:05 PM - 1:10 PM	42.1	61.5	39.2
1:10 PM - 1:15 PM	50.4	73.7	39.4
1:15 PM - 1:20 PM	51.3	74.7	38.8
1:20 PM - 1:25 PM	55.8	78.8	39.0
1:25 PM - 1:30 PM	47.3	68.6	38.9
1:30 PM - 1:35 PM	42.5	48.2	39.0
1:35 PM - 1:40 PM	50.3	74.7	38.1
1:40 PM - 1:45 PM	42.1	60.4	38.2
1:45 PM - 1:50 PM	54.1	76.2	39.2

The above results are valid only for the period and location specified in this report. The results are not valid for any other location or time period. The results are not valid for any other purpose. The results are not valid for any other use.

Approved by

Wibab.

Wibab Borik  
Assistant Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533953-1

TESTING  
No.0042

Sample No. : 22147448-7  
Parameter : Noise  
Location : หมู่บ้านในเขต 2 หมู่บ้าน 15 (N2) (GPS 47 734053, 1432206) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirwet Ruangsom  
Sound Level Meter : 00296517

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Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	42.4	47.3	39.3
12:35 AM - 12:40 AM	43.0	48.4	39.1
12:40 AM - 12:45 AM	46.5	46.6	39.2
12:45 AM - 12:50 AM	36.5	39.9	30.5
12:50 AM - 12:55 AM	32.0	33.3	29.1
12:55 AM - 01:00 AM	42.5	51.5	39.0
01:00 AM - 01:05 AM	44.4	51.6	39.7
01:05 AM - 01:10 AM	38.1	41.3	29.0
01:10 AM - 01:15 AM	42.2	47.8	39.4
01:15 AM - 01:20 AM	44.1	51.6	39.5
01:20 AM - 01:25 AM	31.2	35.1	29.3
01:25 AM - 01:30 AM	46.8	50.1	39.7
01:30 AM - 01:35 AM	41.8	47.5	38.2
01:35 AM - 01:40 AM	42.0	50.8	31.8
01:40 AM - 01:45 AM	41.5	47.5	38.8
01:45 AM - 01:50 AM	39.6	46.9	37.6
01:50 AM - 01:55 AM	40.7	51.5	37.4
01:55 AM - 02:00 AM	35.8	39.4	31.5
02:00 AM - 02:05 AM	40.6	47.6	37.3
02:05 AM - 02:10 AM	31.6	36.8	27.3
02:10 AM - 02:15 AM	41.4	45.5	36.9
02:15 AM - 02:20 AM	42.5	53.4	33.4
02:20 AM - 02:25 AM	34.9	36.5	36.6
02:25 AM - 02:30 AM	42.5	51.5	36.7
02:30 AM - 02:35 AM	34.9	36.5	35.3
02:35 AM - 02:40 AM	37.0	42.8	34.7
02:40 AM - 02:45 AM	36.8	42.1	34.5
02:45 AM - 02:50 AM	32.4	35.3	31.3
02:50 AM - 02:55 AM	32.7	36.6	36.1
02:55 AM - 03:00 AM	38.9	49.1	35.7
03:00 AM - 03:05 AM	48.3	51.4	37.4
03:05 AM - 03:10 AM	31.6	35.8	29.2
03:10 AM - 03:15 AM	41.8	51.3	36.7
03:15 AM - 03:20 AM	31.9	31.6	29.2
03:20 AM - 03:25 AM	31.3	37.2	35.6
03:25 AM - 03:30 AM	32.2	34.6	36.2
03:30 AM - 03:35 AM	31.5	36.4	30.5
03:35 AM - 03:40 AM	32.7	39.1	31.0
03:40 AM - 03:45 AM	48.9	50.4	37.1
03:45 AM - 03:50 AM	34.9	36.3	38.2

The above results are valid only for the time and date stated and are not valid for any other time and date. The results are valid only for the time and date stated and are not valid for any other time and date. The results are valid only for the time and date stated and are not valid for any other time and date.

Approved by

Wibb.

Wibwan Borak  
Assistant Manager

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533953-1

TESTING  
No.0042

Sample No. : 22147448-7  
Parameter : Noise  
Location : หมู่บ้านในเขต 2 หมู่บ้าน 15 (N2) (GPS 47 734053, 1432206) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirwet Ruangsom  
Sound Level Meter : 00296517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:50 AM - 01:55 AM	32.0	34.4	27.3
01:55 AM - 02:00 AM	34.9	37.4	28.7
02:00 AM - 02:05 AM	49.6	50.9	34.9
02:05 AM - 02:10 AM	32.3	37.5	27.5
02:10 AM - 02:15 AM	31.8	37.0	27.4
02:15 AM - 02:20 AM	32.3	37.1	27.9
02:20 AM - 02:25 AM	34.3	38.1	30.2
02:25 AM - 02:30 AM	34.0	37.5	27.4
02:30 AM - 02:35 AM	31.5	34.9	28.5
02:35 AM - 02:40 AM	36.9	39.5	27.6
02:40 AM - 02:45 AM	36.9	38.9	28.9
02:45 AM - 02:50 AM	34.8	37.8	27.8
02:50 AM - 02:55 AM	34.4	37.3	27.4
02:55 AM - 03:00 AM	37.5	38.8	28.2
03:00 AM - 03:05 AM	38.0	39.9	28.6
03:05 AM - 03:10 AM	41.1	41.6	40.0
03:10 AM - 03:15 AM	41.5	41.0	41.4
03:15 AM - 03:20 AM	46.4	45.6	42.2
03:20 AM - 03:25 AM	39.8	41.9	40.5
03:25 AM - 03:30 AM	41.3	41.9	42.3
03:30 AM - 03:35 AM	42.7	40.7	46.3
03:35 AM - 03:40 AM	41.9	39.1	41.0
03:40 AM - 03:45 AM	43.6	43.9	47.9
03:45 AM - 03:50 AM	43.7	38.5	54.1
03:50 AM - 03:55 AM	44.2	40.3	49.6
03:55 AM - 04:00 AM	47.5	45.4	33.4
04:00 AM - 04:05 AM	47.5	46.5	32.8
04:05 AM - 04:10 AM	46.3	46.4	42.7
04:10 AM - 04:15 AM	46.3	46.3	42.7
04:15 AM - 04:20 AM	46.7	46.7	45.9
04:20 AM - 04:25 AM	44.7	44.7	45.0

Reference Method : ISO 1996-1

The above results are valid only for the time and date stated and are not valid for any other time and date. The results are valid only for the time and date stated and are not valid for any other time and date. The results are valid only for the time and date stated and are not valid for any other time and date.

Approved by

Wibb.

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## Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : RJN(2)-03065  
Project Name : Phuk Daeng  
Project Location :

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533957-1

TESTING  
No.0042

Sample No. : 22147444-8  
Parameter : Noise  
Location : หมู่บ้านในเขต 2 หมู่บ้าน 15 (N2) (GPS 47 733675, 1434009)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sirwet Ruangsom  
Sound Level Meter : 00296515

Page 2 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	63.3	55.3	8.0
12:35 AM - 12:40 AM	61.6	51.2	8.5
12:40 AM - 12:45 AM	61.5	52.4	9.1
12:45 AM - 12:50 AM	61.0	51.6	10.9
12:50 AM - 12:55 AM	65.4	53.2	12.2
12:55 AM - 01:00 AM	66.1	56.2	9.8
01:00 AM - 01:05 AM	65.0	54.6	11.0
01:05 AM - 01:10 AM	61.7	53.3	11.4
01:10 AM - 01:15 AM	60.8	52.9	7.9
01:15 AM - 01:20 AM	60.5	45.6	10.9
01:20 AM - 01:25 AM	60.2	46.6	16.1
01:25 AM - 01:30 AM	56.4	46.2	10.4
01:30 AM - 01:35 AM	46.2	46.3	2.8
01:35 AM - 01:40 AM	52.4	45.9	11.5
01:40 AM - 01:45 AM	51.7	44.1	7.6
01:45 AM - 01:50 AM	33.8	43.9	7.7
01:50 AM - 01:55 PM	54.7	44.5	10.2
01:55 PM - 02:00 PM	49.8	43.6	4.2
02:00 PM - 02:05 PM	52.7	42.5	13.2
02:05 PM - 02:10 PM	51.0	42.8	8.2
02:10 PM - 02:15 PM	51.1	41.6	7.3
02:15 PM - 02:20 PM	51.7	41.1	7.6
02:20 PM - 02:25 PM	51.7	41.1	7.6
02:25 PM - 02:30 PM	51.7	41.1	7.6
02:30 PM - 02:35 PM	51.7	41.1	7.6
02:35 PM - 02:40 PM	51.7	41.1	7.6
02:40 PM - 02:45 PM	51.7	41.1	7.6
02:45 PM - 02:50 PM	51.7	41.1	7.6
02:50 PM - 02:55 PM	51.7	41.1	7.6
02:55 PM - 03:00 PM	51.7	41.1	7.6
03:00 PM - 03:05 PM	51.7	41.1	7.6
03:05 PM - 03:10 PM	51.7	41.1	7.6
03:10 PM - 03:15 PM	51.7	41.1	7.6
03:15 PM - 03:20 PM	51.7	41.1	7.6
03:20 PM - 03:25 PM	51.7	41.1	7.6
03:25 PM - 03:30 PM	51.7	41.1	7.6
03:30 PM - 03:35 PM	51.7	41.1	7.6
03:35 PM - 03:40 PM	51.7	41.1	7.6
03:40 PM - 03:45 PM	51.7	41.1	7.6
03:45 PM - 03:50 PM	51.7	41.1	7.6
03:50 PM - 03:55 PM	51.7	41.1	7.6
03:55 PM - 04:00 PM	51.7	41.1	7.6
04:00 PM - 04:05 PM	51.7	41.1	7.6
04:05 PM - 04:10 PM	51.7	41.1	7.6
04:10 PM - 04:15 PM	51.7	41.1	7.6
04:15 PM - 04:20 PM	51.7	41.1	7.6
04:20 PM - 04:25 PM	51.7	41.1	7.6
04:25 PM - 04:30 PM	51.7	41.1	7.6
04:30 PM - 04:35 PM	51.7	41.1	7.6
04:35 PM - 04:40 PM	51.7	41.1	7.6
04:40 PM - 04:45 PM	51.7	41.1	7.6
04:45 PM - 04:50 PM	51.7	41.1	7.6
04:50 PM - 04:55 PM	51.7	41.1	7.6
04:55 PM - 05:00 PM	51.7	41.1	7.6
05:00 PM - 05:05 PM	51.7	41.1	7.6
05:05 PM - 05:10 PM	51.7	41.1	7.6
05:10 PM - 05:15 PM	51.7	41.1	7.6
05:15 PM - 05:20 PM	51.7	41.1	7.6
05:20 PM - 05:25 PM	51.7	41.1	7.6
05:25 PM - 05:30 PM	51.7	41.1	7.6
05:30 PM - 05:35 PM	51.7	41.1	7.6
05:35 PM - 05:40 PM	51.7	41.1	7.6
05:40 PM - 05:45 PM	51.7	41.1	7.6
05:45 PM - 05:50 PM	51.7	41.1	7.6
05:50 PM - 05:55 PM	51.7	41.1	7.6
05:55 PM - 06:00 PM	51.7	41.1	7.6
06:00 PM - 06:05 PM	51.7	41.1	7.6
06:05 PM - 06:10 PM	51.7	41.1	7.6
06:10 PM - 06:15 PM	51.7	41.1	7.6
06:15 PM - 06:20 PM	51.7	41.1	7.6
06:20 PM - 06:25 PM	51.7	41.1	7.6
06:25 PM - 06:30 PM	51.7	41.1	7.6
06:30 PM - 06:35 PM	51.7	41.1	7.6
06:35 PM - 06:40 PM	51.7	41.1	7.6
06:40 PM - 06:45 PM	51.7	41.1	7.6
06:45 PM - 06:50 PM	51.7	41.1	7.6
06:50 PM - 06:55 PM	51.7	41.1	7.6
06:55 PM - 07:00 PM	51.7	41.1	7.6
07:00 PM - 07:05 PM	51.7	41.1	7.6
07:05 PM - 07:10 PM	51.7	41.1	7.6
07:10 PM - 07:15 PM	51.7	41.1	7.6
07:15 PM - 07:20 PM	51.7	41.1	7.6
07:20 PM - 07:25 PM	51.7	41.1	7.6
07:25 PM - 07:30 PM	51.7	41.1	7.6
07:30 PM - 07:35 PM	51.7	41.1	7.6
07:35 PM - 07:40 PM	51.7	41.1	7.6
07:40 PM - 07:45 PM	51.7	41.1	7.6
07:45 PM - 07:50 PM	51.7	41.1	7.6
07:50 PM - 07:55 PM	51.7	41.1	7.6
07:55 PM - 08:00 PM	51.7	41.1	7.6
08:00 PM - 08:05 PM	51.7	41.1	7.6
08:05 PM - 08:10 PM	51.7	41.1	7.6
08:10 PM - 08:15 PM	51.7	41.1	7.6
08:15 PM - 08:20 PM	51.7	41.1	7.6
08:20 PM - 08:25 PM	51.7	41.1	7.6
08:25 PM - 08:30 PM	51.7	41.1	7.6
08:30 PM - 08:35 PM	51.7	41.1	7.6
08:35 PM - 08:40 PM	51.7	41.1	7.6
08:40 PM - 08:45 PM	51.7	41.1	7.6
08:45 PM - 08:50 PM	51.7	41.1	7.6
08:50 PM - 08:55 PM	51.7	41.1	7.6
08:55 PM - 09:00 PM	51.7	41.1	7.6
09:00 PM - 09:05 PM	51.7	41.1	7.6
09:05 PM - 09:10 PM	51.7	41.1	7.6
09:10 PM - 09:15 PM	51.7	41.1	7.6
09:15 PM - 09:20 PM	51.7	41.1	7.6
09:20 PM - 09:25 PM	51.7	41.1	7.6
09:25 PM - 09:30 PM	51.7	41.1	7.6
09:30 PM - 09:35 PM	51.7	41.1	7.6
09:35 PM - 09:40 PM	51.7	41.1	7.6
09:40 PM - 09:45 PM	51.7	41.1	7.6
09:45 PM - 09:50 PM	51.7	41.1	7.6
09:50 PM - 09:55 PM	51.7	41.1	7.6
09:55 PM - 10:00 PM	51.7	41.1	7.6
10:00 PM - 10:05 PM	51.7	41.1	7.6
10:05 PM - 10:10 PM	51.7	41.1	7.6
10:10 PM - 10:15 PM	51.7	41.1	7.6
10:15 PM - 10:20 PM	51.7	41.1	7.6
10:20 PM - 10:25 PM	51.7	41.1	7.6
10:25 PM - 10:30 PM	51.7	41.1	7.6
10:30 PM - 10:35 PM	51.7	41.1	7.6
10:35 PM - 10:40 PM	51.7	41.1	7.6
10:40 PM - 10:45 PM	51.7	41.1	7.6
10:45 PM - 10:50 PM	51.7	41.1	7.6
10:50 PM - 10:55 PM	51.7	41.1	7.6
10:55 PM - 11:00 PM	51.7	41.1	7.





# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number : 2533968-1

P/O : RJN(2)-030/65  
Project Name : Pluak Daeng  
Project Location : Pluak Daeng

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Sample No. : 22147444-8  
Parameter : โลหะหนัก  
Location : บ้านกล้วย หมู่ 2 ต.สามชัย 15 (N2) (GPS 477 733675, 1434009)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sirich Rungsom  
Sound Level Meter : 00296515

ตารางข้อมูล (dB(A))						
เวลา	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด
03:30 AM - 03:35 AM	37.6	37.8	38.0	38.2	38.4	38.6
03:35 AM - 03:40 AM	37.8	38.0	38.2	38.4	38.6	38.8
03:40 AM - 03:45 AM	38.0	38.2	38.4	38.6	38.8	39.0
03:45 AM - 03:50 AM	38.2	38.4	38.6	38.8	39.0	39.2
03:50 AM - 03:55 AM	38.4	38.6	38.8	39.0	39.2	39.4
03:55 AM - 04:00 AM	38.6	38.8	39.0	39.2	39.4	39.6
04:00 AM - 04:05 AM	38.8	39.0	39.2	39.4	39.6	39.8
04:05 AM - 04:10 AM	39.0	39.2	39.4	39.6	39.8	40.0
04:10 AM - 04:15 AM	39.2	39.4	39.6	39.8	40.0	40.2
04:15 AM - 04:20 AM	39.4	39.6	39.8	40.0	40.2	40.4
04:20 AM - 04:25 AM	39.6	39.8	40.0	40.2	40.4	40.6
04:25 AM - 04:30 AM	39.8	40.0	40.2	40.4	40.6	40.8
04:30 AM - 04:35 AM	40.0	40.2	40.4	40.6	40.8	41.0
04:35 AM - 04:40 AM	40.2	40.4	40.6	40.8	41.0	41.2
04:40 AM - 04:45 AM	40.4	40.6	40.8	41.0	41.2	41.4
04:45 AM - 04:50 AM	40.6	40.8	41.0	41.2	41.4	41.6
04:50 AM - 04:55 AM	40.8	41.0	41.2	41.4	41.6	41.8
04:55 AM - 05:00 AM	41.0	41.2	41.4	41.6	41.8	42.0
05:00 AM - 05:05 AM	41.2	41.4	41.6	41.8	42.0	42.2
05:05 AM - 05:10 AM	41.4	41.6	41.8	42.0	42.2	42.4
05:10 AM - 05:15 AM	41.6	41.8	42.0	42.2	42.4	42.6
05:15 AM - 05:20 AM	41.8	42.0	42.2	42.4	42.6	42.8
05:20 AM - 05:25 AM	42.0	42.2	42.4	42.6	42.8	43.0
05:25 AM - 05:30 AM	42.2	42.4	42.6	42.8	43.0	43.2
05:30 AM - 05:35 AM	42.4	42.6	42.8	43.0	43.2	43.4
05:35 AM - 05:40 AM	42.6	42.8	43.0	43.2	43.4	43.6
05:40 AM - 05:45 AM	42.8	43.0	43.2	43.4	43.6	43.8
05:45 AM - 05:50 AM	43.0	43.2	43.4	43.6	43.8	44.0
05:50 AM - 05:55 AM	43.2	43.4	43.6	43.8	44.0	44.2
05:55 AM - 06:00 AM	43.4	43.6	43.8	44.0	44.2	44.4
06:00 AM - 06:05 AM	43.6	43.8	44.0	44.2	44.4	44.6
06:05 AM - 06:10 AM	43.8	44.0	44.2	44.4	44.6	44.8
06:10 AM - 06:15 AM	44.0	44.2	44.4	44.6	44.8	45.0
06:15 AM - 06:20 AM	44.2	44.4	44.6	44.8	45.0	45.2
06:20 AM - 06:25 AM	44.4	44.6	44.8	45.0	45.2	45.4
06:25 AM - 06:30 AM	44.6	44.8	45.0	45.2	45.4	45.6
06:30 AM - 06:35 AM	44.8	45.0	45.2	45.4	45.6	45.8
06:35 AM - 06:40 AM	45.0	45.2	45.4	45.6	45.8	46.0
06:40 AM - 06:45 AM	45.2	45.4	45.6	45.8	46.0	46.2
06:45 AM - 06:50 AM	45.4	45.6	45.8	46.0	46.2	46.4
06:50 AM - 06:55 AM	45.6	45.8	46.0	46.2	46.4	46.6
06:55 AM - 07:00 AM	45.8	46.0	46.2	46.4	46.6	46.8
07:00 AM - 07:05 AM	46.0	46.2	46.4	46.6	46.8	47.0
07:05 AM - 07:10 AM	46.2	46.4	46.6	46.8	47.0	47.2
07:10 AM - 07:15 AM	46.4	46.6	46.8	47.0	47.2	47.4
07:15 AM - 07:20 AM	46.6	46.8	47.0	47.2	47.4	47.6
07:20 AM - 07:25 AM	46.8	47.0	47.2	47.4	47.6	47.8
07:25 AM - 07:30 AM	47.0	47.2	47.4	47.6	47.8	48.0
07:30 AM - 07:35 AM	47.2	47.4	47.6	47.8	48.0	48.2
07:35 AM - 07:40 AM	47.4	47.6	47.8	48.0	48.2	48.4
07:40 AM - 07:45 AM	47.6	47.8	48.0	48.2	48.4	48.6
07:45 AM - 07:50 AM	47.8	48.0	48.2	48.4	48.6	48.8
07:50 AM - 07:55 AM	48.0	48.2	48.4	48.6	48.8	49.0
07:55 AM - 08:00 AM	48.2	48.4	48.6	48.8	49.0	49.2
08:00 AM - 08:05 AM	48.4	48.6	48.8	49.0	49.2	49.4
08:05 AM - 08:10 AM	48.6	48.8	49.0	49.2	49.4	49.6
08:10 AM - 08:15 AM	48.8	49.0	49.2	49.4	49.6	49.8
08:15 AM - 08:20 AM	49.0	49.2	49.4	49.6	49.8	50.0
08:20 AM - 08:25 AM	49.2	49.4	49.6	49.8	50.0	50.2
08:25 AM - 08:30 AM	49.4	49.6	49.8	50.0	50.2	50.4
08:30 AM - 08:35 AM	49.6	49.8	50.0	50.2	50.4	50.6
08:35 AM - 08:40 AM	49.8	50.0	50.2	50.4	50.6	50.8
08:40 AM - 08:45 AM	50.0	50.2	50.4	50.6	50.8	51.0
08:45 AM - 08:50 AM	50.2	50.4	50.6	50.8	51.0	51.2
08:50 AM - 08:55 AM	50.4	50.6	50.8	51.0	51.2	51.4
08:55 AM - 09:00 AM	50.6	50.8	51.0	51.2	51.4	51.6
09:00 AM - 09:05 AM	50.8	51.0	51.2	51.4	51.6	51.8
09:05 AM - 09:10 AM	51.0	51.2	51.4	51.6	51.8	52.0
09:10 AM - 09:15 AM	51.2	51.4	51.6	51.8	52.0	52.2
09:15 AM - 09:20 AM	51.4	51.6	51.8	52.0	52.2	52.4
09:20 AM - 09:25 AM	51.6	51.8	52.0	52.2	52.4	52.6
09:25 AM - 09:30 AM	51.8	52.0	52.2	52.4	52.6	52.8
09:30 AM - 09:35 AM	52.0	52.2	52.4	52.6	52.8	53.0
09:35 AM - 09:40 AM	52.2	52.4	52.6	52.8	53.0	53.2
09:40 AM - 09:45 AM	52.4	52.6	52.8	53.0	53.2	53.4
09:45 AM - 09:50 AM	52.6	52.8	53.0	53.2	53.4	53.6
09:50 AM - 09:55 AM	52.8	53.0	53.2	53.4	53.6	53.8
09:55 AM - 10:00 AM	53.0	53.2	53.4	53.6	53.8	54.0
10:00 AM - 10:05 AM	53.2	53.4	53.6	53.8	54.0	54.2
10:05 AM - 10:10 AM	53.4	53.6	53.8	54.0	54.2	54.4
10:10 AM - 10:15 AM	53.6	53.8	54.0	54.2	54.4	54.6
10:15 AM - 10:20 AM	53.8	54.0	54.2	54.4	54.6	54.8
10:20 AM - 10:25 AM	54.0	54.2	54.4	54.6	54.8	55.0
10:25 AM - 10:30 AM	54.2	54.4	54.6	54.8	55.0	55.2
10:30 AM - 10:35 AM	54.4	54.6	54.8	55.0	55.2	55.4
10:35 AM - 10:40 AM	54.6	54.8	55.0	55.2	55.4	55.6
10:40 AM - 10:45 AM	54.8	55.0	55.2	55.4	55.6	55.8
10:45 AM - 10:50 AM	55.0	55.2	55.4	55.6	55.8	56.0
10:50 AM - 10:55 AM	55.2	55.4	55.6	55.8	56.0	56.2
10:55 AM - 11:00 AM	55.4	55.6	55.8	56.0	56.2	56.4
11:00 AM - 11:05 AM	55.6	55.8	56.0	56.2	56.4	56.6
11:05 AM - 11:10 AM	55.8	56.0	56.2	56.4	56.6	56.8
11:10 AM - 11:15 AM	56.0	56.2	56.4	56.6	56.8	57.0
11:15 AM - 11:20 AM	56.2	56.4	56.6	56.8	57.0	57.2
11:20 AM - 11:25 AM	56.4	56.6	56.8	57.0	57.2	57.4
11:25 AM - 11:30 AM	56.6	56.8	57.0	57.2	57.4	57.6
11:30 AM - 11:35 AM	56.8	57.0	57.2	57.4	57.6	57.8
11:35 AM - 11:40 AM	57.0	57.2	57.4	57.6	57.8	58.0
11:40 AM - 11:45 AM	57.2	57.4	57.6	57.8	58.0	58.2
11:45 AM - 11:50 AM	57.4	57.6	57.8	58.0	58.2	58.4
11:50 AM - 11:55 AM	57.6	57.8	58.0	58.2	58.4	58.6
11:55 AM - 12:00 AM	57.8	58.0	58.2	58.4	58.6	58.8
12:00 AM - 12:05 AM	58.0	58.2	58.4	58.6	58.8	59.0
12:05 AM - 12:10 AM	58.2	58.4	58.6	58.8	59.0	59.2
12:10 AM - 12:15 AM	58.4	58.6	58.8	59.0	59.2	59.4
12:15 AM - 12:20 AM	58.6	58.8	59.0	59.2	59.4	59.6
12:20 AM - 12:25 AM	58.8	59.0	59.2	59.4	59.6	59.8
12:25 AM - 12:30 AM	59.0	59.2	59.4	59.6	59.8	60.0
12:30 AM - 12:35 AM	59.2	59.4	59.6	59.8	60.0	60.2
12:35 AM - 12:40 AM	59.4	59.6	59.8	60.0	60.2	60.4
12:40 AM - 12:45 AM	59.6	59.8	60.0	60.2	60.4	60.6
12:45 AM - 12:50 AM	59.8	60.0	60.2	60.4	60.6	60.8
12:50 AM - 12:55 AM	60.0	60.2	60.4	60.6	60.8	61.0
12:55 AM - 01:00 AM	60.2	60.4	60.6	60.8	61.0	61.2



# Analysis / Test Report

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

P/O : R/JN(2)-030/65  
Project Name : Phuk Daeng  
Project Location : Phuk Daeng

Sample No. : 22147444-10  
Parameter : ปรอทอินทรีย์ (N2) (GSP 47P 733675, 1434009)  
Location : Dec 21 - 22, 2022  
Measurement Date : Sirok Rangsom  
Measurement by : 00295515



TESTING  
No.0042

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number: 2533969-1

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนโดยประมาณ	ค่าเฉลี่ย	ค่าปรับ	ค่าเฉลี่ยรวม		เสียงรบกวนโดยประมาณ	ค่าเฉลี่ยรวม
					ค่าเฉลี่ย	ค่าปรับ		
12:00 PM - 01:00 PM	61.7	52.8	8.8	0.5	61.2	43.1	18.1	
01:00 PM - 02:00 PM	62.0	53.8	8.1	0.5	61.5	43.8	17.7	
02:00 PM - 03:00 PM	62.1	52.6	9.5	0.5	62.6	45.0	17.6	
03:00 PM - 04:00 PM	62.7	52.9	9.8	0.5	63.2	45.7	17.5	
04:00 PM - 05:00 PM	65.4	54.4	11.0	0.5	64.9	46.6	18.3	
05:00 PM - 06:00 PM	61.9	56.1	5.8	0.5	62.4	49.7	12.7	
06:00 PM - 07:00 PM	64.7	52.5	12.2	0.5	65.2	46.4	18.8	
07:00 PM - 08:00 PM	64.4	52.8	11.6	0.5	63.9	46.7	17.2	
08:00 PM - 09:00 PM	61.2	52.0	9.2	0.5	60.7	46.6	14.1	
09:00 PM - 10:00 PM	58.0	46.4	11.6	0.5	57.5	44.4	13.1	
10:00 PM - 11:00 PM	54.6	44.5	10.1	0.5	54.1	41.0	13.1	
11:00 PM - 12:00 PM	58.7	44.8	13.9	0.0	58.7	41.0	17.7	
12:01 PM - 01:01 PM	57.8	44.6	13.2	0.0	57.8	40.1	17.7	
01:01 PM - 02:01 PM	54.7	45.7	8.9	0.5	55.2	41.0	14.2	
02:01 PM - 03:01 PM	57.2	46.9	10.3	0.5	56.7	41.4	15.3	
03:01 PM - 04:01 PM	61.0	50.4	10.6	0.5	60.5	43.9	16.6	
04:01 PM - 05:01 PM	51.8	40.0	11.8	0.0	51.8	40.1	11.7	
05:01 PM - 06:01 PM	46.5	36.4	10.1	0.0	46.5	36.4	10.1	
06:01 PM - 07:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:01 PM - 08:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:01 PM - 09:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:01 PM - 10:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:01 PM - 11:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:01 PM - 12:01 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:02 PM - 01:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:02 PM - 02:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:02 PM - 03:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:02 PM - 04:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:02 PM - 05:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:02 PM - 06:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:02 PM - 07:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:02 PM - 08:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:02 PM - 09:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:02 PM - 10:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:02 PM - 11:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:02 PM - 12:02 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:03 PM - 01:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:03 PM - 02:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:03 PM - 03:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:03 PM - 04:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:03 PM - 05:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:03 PM - 06:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:03 PM - 07:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:03 PM - 08:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:03 PM - 09:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:03 PM - 10:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:03 PM - 11:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:03 PM - 12:03 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:04 PM - 01:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:04 PM - 02:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:04 PM - 03:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:04 PM - 04:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:04 PM - 05:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:04 PM - 06:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:04 PM - 07:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:04 PM - 08:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:04 PM - 09:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:04 PM - 10:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:04 PM - 11:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:04 PM - 12:04 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:05 PM - 01:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:05 PM - 02:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:05 PM - 03:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:05 PM - 04:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:05 PM - 05:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:05 PM - 06:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:05 PM - 07:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:05 PM - 08:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:05 PM - 09:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:05 PM - 10:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:05 PM - 11:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:05 PM - 12:05 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:06 PM - 01:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:06 PM - 02:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:06 PM - 03:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:06 PM - 04:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:06 PM - 05:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:06 PM - 06:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:06 PM - 07:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:06 PM - 08:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:06 PM - 09:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:06 PM - 10:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:06 PM - 11:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:06 PM - 12:06 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:07 PM - 01:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:07 PM - 02:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:07 PM - 03:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:07 PM - 04:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:07 PM - 05:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:07 PM - 06:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:07 PM - 07:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:07 PM - 08:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:07 PM - 09:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:07 PM - 10:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:07 PM - 11:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:07 PM - 12:07 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:08 PM - 01:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:08 PM - 02:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:08 PM - 03:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:08 PM - 04:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:08 PM - 05:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:08 PM - 06:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:08 PM - 07:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:08 PM - 08:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:08 PM - 09:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:08 PM - 10:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:08 PM - 11:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:08 PM - 12:08 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:09 PM - 01:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:09 PM - 02:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:09 PM - 03:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:09 PM - 04:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:09 PM - 05:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:09 PM - 06:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:09 PM - 07:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:09 PM - 08:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:09 PM - 09:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:09 PM - 10:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:09 PM - 11:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:09 PM - 12:09 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:10 PM - 01:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:10 PM - 02:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:10 PM - 03:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:10 PM - 04:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:10 PM - 05:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:10 PM - 06:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:10 PM - 07:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:10 PM - 08:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:10 PM - 09:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:10 PM - 10:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:10 PM - 11:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:10 PM - 12:10 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:11 PM - 01:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
01:11 PM - 02:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
02:11 PM - 03:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
03:11 PM - 04:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
04:11 PM - 05:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
05:11 PM - 06:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
06:11 PM - 07:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
07:11 PM - 08:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
08:11 PM - 09:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
09:11 PM - 10:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
10:11 PM - 11:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
11:11 PM - 12:11 PM	45.6	35.4	10.2	0.0	45.6	35.4	10.2	
12:12 PM - 01:12 PM	45.6	35.4						



# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533970-1

P/O : RJN(2)-030/65  
Project Name : Plank Daeng  
Project Location :

Page 2 of 3

Sample No. 22147444-11  
Parameter เสียงรบกวน  
Location บ้านพัก หมู่ 2 ซ.บางนา หมู่ 15 (N2) (GPS 47 733675, 1434009)  
Measurement Date Dec 22 - 23, 2022  
Measurement by Sirin Rungsom  
Sound Level Meter 00296515

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ค่าเฉลี่ย	ค่าปรับ	เสียงรบกวนรวม	เสียงรบกวนรวม	ค่าเฉลี่ย
12:30 AM - 12:35 AM	46.9	46.9	2.9	3.0	48.9	38.8	16.1
12:35 AM - 12:40 AM	51.9	46.4	7.2	1.0	53.5	38.2	15.9
12:40 AM - 12:45 AM	46.1	44.6	1.5	4.5	44.6	39.8	4.8
12:45 AM - 12:50 AM	46.0	41.6	-5.6	7.0	42.0	40.1	1.9
12:50 AM - 12:55 AM	55.9	44.3	11.5	0.5	56.3	40.1	16.2
12:55 AM - 01:00 AM	54.9	40.5	14.4	0.0	57.9	38.2	19.7
01:00 AM - 01:05 AM	57.3	40.5	16.8	0.0	60.3	37.5	22.8
01:05 AM - 01:10 AM	54.6	40.8	13.8	0.0	57.6	37.8	19.8
01:10 AM - 01:15 AM	46.2	41.0	5.2	1.0	47.2	37.8	9.8
01:15 AM - 01:20 AM	54.3	38.7	15.6	0.0	57.1	38.3	18.9
01:20 AM - 01:25 AM	47.3	35.6	-3.7	7.0	47.3	38.9	8.3
01:25 AM - 01:30 AM	52.3	35.6	16.7	0.0	52.3	38.7	13.6
01:30 AM - 01:35 AM	46.4	41.7	4.7	1.5	47.9	39.2	8.7
01:35 AM - 01:40 AM	50.0	40.6	9.4	0.5	52.5	38.1	14.4
01:40 AM - 01:45 AM	44.9	38.6	6.3	1.5	46.0	37.6	8.4
01:45 AM - 01:50 AM	48.3	40.3	8.0	0.5	50.8	37.4	13.4
01:50 AM - 01:55 AM	57.0	42.6	14.4	0.0	60.0	38.0	22.0
01:55 AM - 02:00 AM	53.8	42.8	11.0	0.0	56.1	40.5	15.6
02:00 AM - 02:05 AM	49.6	44.9	4.7	1.5	51.1	38.2	12.9
02:05 AM - 02:10 AM	49.2	39.5	6.7	1.0	47.2	37.9	9.3
02:10 AM - 02:15 AM	52.8	40.9	11.9	0.5	55.1	38.0	17.1
02:15 AM - 02:20 AM	52.3	37.8	14.5	0.0	52.2	35.9	16.3
02:20 AM - 02:25 AM	54.3	41.9	12.4	0.5	56.8	37.4	19.4
02:25 AM - 02:30 AM	52.4	39.3	13.1	0.0	55.4	38.0	17.4
02:30 AM - 02:35 AM	46.2	41.4	4.8	1.0	47.2	38.2	9.0
02:35 AM - 02:40 AM	52.3	41.2	11.0	0.5	54.7	38.2	16.5
02:40 AM - 02:45 AM	48.8	42.7	6.1	1.5	50.3	37.1	13.3
02:45 AM - 02:50 AM	47.2	46.8	0.6	1.5	48.7	37.9	10.8
02:50 AM - 02:55 AM	49.5	40.3	9.0	1.0	51.8	37.9	13.9
02:55 AM - 03:00 AM	49.5	39.2	10.3	0.5	52.6	38.2	14.4
03:00 AM - 03:05 AM	51.0	40.6	10.4	0.5	53.3	37.7	15.6
03:05 AM - 03:10 AM	50.0	38.8	11.2	0.0	52.5	37.3	15.2
03:10 AM - 03:15 AM	51.3	41.0	9.3	0.5	53.8	38.6	15.2
03:15 AM - 03:20 AM	48.1	37.8	10.3	0.5	50.6	36.7	13.9
03:20 AM - 03:25 AM	49.4	40.0	9.4	0.5	51.9	38.2	13.7
03:25 AM - 03:30 AM	38.0	43.2	5.2	0.0	38.0	37.8	0.2
03:30 AM - 03:35 AM	43.1	47.0	-3.9	7.0	38.1	39.0	0.9
03:35 AM - 03:40 AM	33.8	40.9	7.1	0.0	38.9	39.0	0.1
03:40 AM - 03:45 AM	33.9	39.9	6.0	0.0	38.9	38.7	0.2
03:45 AM - 03:50 AM	37.8	38.8	1.0	0.0	40.8	37.3	33.5

This report is valid only for the intended use and purpose. It is not valid for any other use. The user is responsible for the correct use of the report. The user is responsible for the correct use of the report.

Approved by

Wibab.

Wibab Bork  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533970-1

P/O : RJN(2)-030/65  
Project Name : Plank Daeng  
Project Location :

Page 1 of 3

Sample No. 22147444-11  
Parameter เสียงรบกวน  
Location บ้านพัก หมู่ 2 ซ.บางนา หมู่ 15 (N2) (GPS 47 733675, 1434009)  
Measurement Date Dec 22 - 23, 2022  
Measurement by Sirin Rungsom  
Sound Level Meter 00296515

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ค่าเฉลี่ย	ค่าปรับ	เสียงรบกวนรวม	เสียงรบกวนรวม	ค่าเฉลี่ย
01:30 AM - 01:35 AM	54.5	42.5	12.0	0.5	57.0	37.8	19.2
01:35 AM - 01:40 AM	55.3	39.9	15.4	0.0	56.3	38.7	17.6
01:40 AM - 01:45 AM	50.7	45.2	5.5	1.5	52.2	39.7	12.5
01:45 AM - 01:50 AM	51.3	41.4	9.9	0.5	53.8	40.0	13.8
01:50 AM - 01:55 AM	49.5	42.7	6.8	1.0	51.5	39.6	11.9
01:55 AM - 02:00 AM	53.3	42.7	10.6	0.0	56.3	39.8	16.5
02:00 AM - 02:05 AM	60.1	46.5	13.6	0.0	63.1	39.1	24.0
02:05 AM - 02:10 AM	55.0	43.9	11.1	0.0	58.0	38.6	19.4
02:10 AM - 02:15 AM	53.9	44.2	11.7	0.5	56.4	40.4	16.0
02:15 AM - 02:20 AM	54.4	43.3	11.1	0.0	59.6	40.5	19.1
02:20 AM - 02:25 AM	58.0	49.1	8.9	0.5	60.5	40.9	19.6
02:25 AM - 02:30 AM	52.6	42.6	10.0	0.0	61.6	40.5	21.1
02:30 AM - 02:35 AM	60.6	47.7	12.9	0.0	63.6	39.1	24.5
02:35 AM - 02:40 AM	59.5	43.9	15.6	0.0	61.5	38.5	23.0
02:40 AM - 02:45 AM	57.8	52.1	5.3	1.5	59.3	39.2	20.1
02:45 AM - 02:50 AM	60.1	44.6	15.5	0.0	62.1	39.3	22.8
02:50 AM - 02:55 AM	61.6	47.0	14.6	0.0	64.6	40.9	23.7
02:55 AM - 03:00 AM	61.7	51.5	9.7	0.5	63.7	42.3	21.4
03:00 AM - 03:05 AM	60.6	47.1	13.5	0.0	62.6	41.5	21.1
03:05 AM - 03:10 AM	64.2	46.5	17.7	0.0	67.2	42.4	24.8
03:10 AM - 03:15 AM	63.3	48.2	15.1	0.0	65.0	44.3	20.7
03:15 AM - 03:20 AM	64.4	51.6	12.4	0.0	67.2	44.5	22.7
03:20 AM - 03:25 AM	61.7	48.4	13.3	0.0	66.7	43.7	23.0
03:25 AM - 03:30 AM	61.8	48.9	12.9	0.0	70.4	44.3	26.1
03:30 AM - 03:35 AM	67.4	49.3	18.1	0.0	70.4	44.3	26.1
03:35 AM - 03:40 AM	68.1	54.3	13.8	0.0	68.1	48.9	19.2
03:40 AM - 03:45 AM	65.3	57.8	7.5	0.5	65.3	51.3	14.0
03:45 AM - 03:50 AM	61.2	54.6	7.6	0.5	61.2	46.6	14.6
03:50 AM - 03:55 AM	64.2	54.7	9.5	0.5	64.2	46.1	18.1
03:55 AM - 04:00 AM	63.8	54.3	9.5	0.5	63.8	44.5	19.3
04:00 AM - 04:05 AM	63.2	57.5	5.3	1.5	63.2	43.5	19.7

Reference Method : ISO 1996-1

หมายเหตุ

1. ข้อมูลที่ได้มาจากการวัดเสียงรบกวนนี้ใช้สำหรับการประเมินผลกระทบจากเสียงรบกวนเท่านั้น ไม่สามารถใช้ในการวินิจฉัยโรคหรือการประเมินสุขภาพของบุคคลได้
2. ข้อมูลที่ได้มาจากการวัดเสียงรบกวนนี้ใช้สำหรับการประเมินผลกระทบจากเสียงรบกวนเท่านั้น ไม่สามารถใช้ในการวินิจฉัยโรคหรือการประเมินสุขภาพของบุคคลได้

ฉบับนี้จัดทำขึ้นเพื่อใช้ในการประเมินผลกระทบจากเสียงรบกวนเท่านั้น ไม่สามารถใช้ในการวินิจฉัยโรคหรือการประเมินสุขภาพของบุคคลได้

Approved by

Wibab.

Wibab Bork  
Assistant Manager

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533970-1

P/O : RJN(2)-030/65  
Project Name : Plank Daeng  
Project Location :

Page 1 of 3

Sample No. 22147444-12  
Parameter เสียงรบกวน  
Location บ้านพัก หมู่ 2 ซ.บางนา หมู่ 15 (N2) (GPS 47 733675, 1434009)  
Measurement Date Dec 23 - 24, 2022  
Measurement by Sirin Rungsom  
Sound Level Meter 00296515

ตารางบันทึกเสียง (dB(A))							
เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนจากภายนอก	ค่าเฉลี่ย	ค่าปรับ	เสียงรบกวนรวม	เสียงรบกวนรวม	ค่าเฉลี่ย
12:30 PM - 12:35 PM	42.9	43.4	2.5	3.0	45.2	38.9	16.3
12:35 PM - 12:40 PM	41.7	38.4	-3.3	4.5	42.2	38.1	4.1
12:40 PM - 12:45 PM	41.9	46.9	5.0	7.0	54.9	38.1	16.8
12:45 PM - 12:50 PM	43.1	42.4	-0.7	0.5	44.1	38.1	6.0
12:50 PM - 12:55 PM	45.9	52.7	7.8	0.0	56.9	38.1	18.8
12:55 PM - 01:00 PM	44.4	56.7	12.3	0.3	63.8	38.9	24.9
01:00 PM - 01:05 PM	43.8	56.5	12.7	0.3	63.2	38.9	24.3
01:05 PM - 01:10 PM	43.8	56.3	12.5	0.3	63.1	38.9	24.2
01:10 PM - 01:15 PM	42.3	53.0	10.7	0.5	61.8	38.9	22.9
01:15 PM - 01:20 PM	42.0	51.2	9.2	0.5	60.5	38.9	21.6
01:20 PM - 01:25 PM	41.7	49.3	7.6	1.5	59.2	38.9	20.3
01:25 PM - 01:30 PM	41.7	47.3	5.6	1.5	57.2	38.9	18.3
01:30 PM - 01:35 PM	41.7	45.3	3.6	1.5	55.2	38.9	16.3
01:35 PM - 01:40 PM	41.7	43.3	1.6	1.5	53.2	38.9	14.3
01:40 PM - 01:45 PM	41.7	41.3	-0.4	1.5	51.2	38.9	12.3
01:45 PM - 01:50 PM	41.7	39.3	-1.4	1.5	49.2	38.9	10.3
01:50 PM - 01:55 PM	41.7	37.3	-3.4	1.5	47.2	38.9	8.3
01:55 PM - 02:00 PM	41.7	35.3	-5.4	1.5	45.2	38.9	6.3
02:00 PM - 02:05 PM	41.7	33.3	-7.4	1.5	43.2	38.9	4.3
02:05 PM - 02:10 PM	41.7	31.3	-9.4	1.5	41.2	38.9	2.3
02:10 PM - 02:15 PM	41.7	29.3	-11.4	1.5	39.2	38.9	0.3
02:15 PM - 02:20 PM	41.7	27.3	-13.4	1.5	37.2	38.9	-1.7
02:20 PM - 02:25 PM	41.7	25.3	-15.4	1.5	35.2	38.9	-3.7
02:25 PM - 02:30 PM	41.7	23.3	-17.4	1.5	33.2	38.9	-5.7
02:30 PM - 02:35 PM	41.7	21.3	-19.4	1.5	31.2	38.9	-7.7
02:35 PM - 02:40 PM	41.7	19.3	-21.4	1.5	29.2	38.9	-9.7
02:40 PM - 02:45 PM	41.7	17.3	-23.4	1.5	27.2	38.9	-11.7
02:45 PM - 02:50 PM	41.7	15.3	-25.4	1.5	25.2	38.9	-13.7
02:50 PM - 02:55 PM	41.7	13.3	-27.4	1.5	23.2	38.9	-15.7
02:55 PM - 03:00 PM	41.7	11.3	-29.4	1.5	21.2	38.9	-17.7
03:00 PM - 03:05 PM	41.7	9.3	-31.4	1.5	19.2	38.9	-19.7
03:05 PM - 03:10 PM	41.7	7.3	-33.4	1.5	17.2	38.9	-21.7
03:10 PM - 03:15 PM	41.7	5.3	-35.4	1.5	15.2	38.9	-23.7
03:15 PM - 03:20 PM	41.7	3.3	-37.4	1.5	13.2	38.9	-25.7
03:20 PM - 03:25 PM	41.7	1.3	-39.4	1.5	11.2	38.9	-27.7
03:25 PM - 03:30 PM	41.7	-0.7	-41.4	1.5	9.2	38.9	-29.7
03:30 PM - 03:35 PM	41.7	-2.7	-43.4	1.5	7.2	38.9	-31.7
03:35 PM - 03:40 PM	41.7	-4.7	-45.4	1.5	5.2	38.9	-33.7
03:40 PM - 03:45 PM	41.7	-6.7	-47.4	1.5	3.2	38.9	-35.7
03:45 PM - 03:50 PM	41.7	-8.7	-49.4	1.5	1.2	38.9	-37.7
03:50 PM - 03:55 PM	41.7	-10.7	-51.4	1.5	-0.8	38.9	-39.7
03:55 PM - 04:00 PM	41.7	-12.7	-53.4	1.5	-2.8	38.9	-41.7



# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533972-1

P/O : RJC(2)-030/65  
Project Name : Phak Daeng  
Project Location :

Page 2 of 3

Sample No. : 22147444-12  
Parameter : (ดินปนทราย)  
Location : บริเวณที่ปลูกฝัง 2 มาตรฐาน 15 (R2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 27 - 24, 2022  
Measurement by : Sitwat Rungsom  
Sound Level Meter : 00294515

เวลา		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่	
เวลา	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่
03:30 AM - 03:45 AM	56.0	41.8	18.4	0.5	55.5	40.8	18.7	0.5	55.0	40.3	19.0
03:45 AM - 04:00 AM	54.4	40.4	18.8	0.5	53.9	39.7	19.1	0.5	53.4	39.2	19.4
04:00 AM - 04:15 AM	57.1	48.0	9.1	0.5	56.6	47.7	9.4	0.5	56.1	47.2	9.7
04:15 AM - 04:30 AM	55.3	39.3	28.0	0.5	54.8	38.6	28.3	0.5	54.3	37.9	28.6
04:30 AM - 04:45 AM	58.5	48.7	5.8	1.5	58.0	48.2	6.1	1.5	57.5	47.7	6.4
04:45 AM - 05:00 AM	54.0	49.1	4.9	1.5	53.5	48.6	5.2	1.5	53.0	48.1	5.5
05:00 AM - 05:15 AM	58.0	49.7	12.7	0.5	57.5	49.2	13.0	0.5	57.0	48.7	13.3
05:15 AM - 05:30 AM	51.4	41.7	7.9	0.5	50.9	41.2	8.2	0.5	50.4	40.7	8.5
05:30 AM - 05:45 AM	55.4	41.8	11.6	0.5	54.9	41.9	11.9	0.5	54.4	42.0	12.2
05:45 AM - 06:00 AM	57.8	41.5	14.3	0.5	57.3	41.2	14.6	0.5	56.8	40.9	14.9
06:00 AM - 06:15 AM	55.0	48.3	5.5	1.0	54.5	48.0	5.8	1.0	54.0	47.5	6.1
06:15 AM - 06:30 AM	58.2	48.1	12.1	0.5	57.7	47.9	12.4	0.5	57.2	47.6	12.7
06:30 AM - 06:45 AM	57.1	46.9	15.2	0.5	56.6	46.7	15.5	0.5	56.1	46.4	15.8
06:45 AM - 07:00 AM	59.2	46.7	12.5	0.5	58.7	46.4	12.8	0.5	58.2	46.1	13.1
07:00 AM - 07:15 AM	52.7	53.0	9.7	0.5	52.2	52.5	10.0	0.5	51.7	52.0	10.3
07:15 AM - 07:30 AM	50.9	45.2	14.7	0.5	50.4	44.7	15.0	0.5	49.9	44.2	15.3
07:30 AM - 07:45 AM	60.5	45.8	14.7	0.5	60.0	45.3	15.0	0.5	59.5	44.8	15.3
07:45 AM - 08:00 AM	51.5	42.7	18.1	0.5	51.0	42.2	18.4	0.5	50.5	41.7	18.7
08:00 AM - 08:15 AM	51.6	44.4	18.2	0.5	51.1	44.1	18.5	0.5	50.6	43.8	18.8
08:15 AM - 08:30 AM	61.6	46.9	18.7	0.5	61.1	46.6	19.0	0.5	60.6	46.3	19.3
08:30 AM - 08:45 AM	66.3	46.5	17.2	0.5	65.8	46.2	17.5	0.5	65.3	45.9	17.8
08:45 AM - 09:00 AM	61.0	45.1	21.1	0.5	60.5	44.6	21.4	0.5	60.0	44.1	21.7
09:00 AM - 09:15 AM	62.2	44.8	17.6	0.5	61.7	44.5	17.9	0.5	61.2	44.2	18.2
09:15 AM - 09:30 AM	62.7	46.0	16.7	0.5	62.2	45.7	17.0	0.5	61.7	45.4	17.3
09:30 AM - 09:45 AM	63.0	46.1	15.8	0.5	62.5	45.8	16.1	0.5	62.0	45.5	16.4
09:45 AM - 10:00 AM	63.9	46.2	17.7	0.5	63.4	45.9	18.0	0.5	62.9	45.6	18.3
10:00 AM - 10:15 AM	67.5	53.2	15.3	0.5	67.0	52.7	15.6	0.5	66.5	52.2	15.9
10:15 AM - 10:30 AM	64.7	49.2	8.0	0.5	64.2	48.7	8.3	0.5	63.7	48.2	8.6
10:30 AM - 10:45 AM	63.0	54.8	8.1	0.5	62.5	54.3	8.4	0.5	62.0	53.8	8.7
10:45 AM - 11:00 AM	63.8	58.7	7.0	1.0	63.3	58.2	7.3	1.0	62.8	57.7	7.6
11:00 AM - 11:15 AM	64.4	54.4	19.0	0.5	63.9	53.9	19.3	0.5	63.4	53.4	19.6
11:15 AM - 11:30 PM	64.5	51.8	19.9	0.5	64.0	51.3	20.2	0.5	63.5	50.8	20.5

Reference Method : ISO 1996-1

- หมายเหตุ :
1. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด
  2. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด
  3. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด

Approved by

Wibb.  
Wiborn Borkat  
Assistant Manager

The data results are valid only for the period of time specified in the report. Any data results outside of this period are not valid and should not be used for any purpose.

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phak Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report Number : 2533972-1

P/O : RJC(2)-030/65  
Project Name : Phak Daeng  
Project Location :

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Sample No. : 22147444-13  
Parameter : (ดินปนทราย)  
Location : บริเวณที่ปลูกฝัง 2 มาตรฐาน 15 (R2) (GPS 47P 733675, 1434009)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : Sitwat Rungsom  
Sound Level Meter : 00294515

เวลา		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่		เสียงรบกวน ตามพื้นที่	
เวลา	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่	เสียงรบกวน ตามพื้นที่
12:00 PM - 12:15 PM	61.5	54.2	9.3	0.5	61.0	53.7	9.6	0.5	60.5	53.4	9.9
12:15 PM - 12:30 PM	62.1	53.0	10.3	0.5	61.6	52.8	10.6	0.5	61.1	52.5	10.9
12:30 PM - 12:45 PM	62.3	54.3	8.0	0.5	61.8	53.4	8.4	0.5	61.3	53.0	8.7
12:45 PM - 1:00 PM	61.7	54.6	10.8	0.5	61.2	53.9	11.1	0.5	60.7	53.2	11.4
1:00 PM - 1:15 PM	61.5	52.9	12.6	0.5	61.0	52.6	12.9	0.5	60.5	52.3	13.2
1:15 PM - 1:30 PM	64.0	54.6	9.4	0.5	63.5	54.1	9.7	0.5	63.0	53.6	10.0
1:30 PM - 1:45 PM	62.3	52.5	10.8	0.5	61.8	51.8	11.0	0.5	61.3	51.3	11.3
1:45 PM - 2:00 PM	62.4	53.7	8.7	0.5	61.9	52.8	9.0	0.5	61.4	52.3	9.3
2:00 PM - 2:15 PM	61.8	51.6	10.2	0.5	61.3	51.1	10.5	0.5	60.8	50.9	10.8
2:15 PM - 2:30 PM	60.9	50.1	10.8	0.5	60.4	49.6	11.1	0.5	59.9	49.1	11.4
2:30 PM - 2:45 PM	62.6	48.8	12.5	0.5	62.1	48.3	12.8	0.5	61.6	47.8	13.1
2:45 PM - 3:00 PM	52.1	49.3	2.8	0.0	51.6	48.8	3.1	0.0	51.1	48.1	3.4
3:00 PM - 3:15 PM	58.7	46.5	12.2	0.5	58.2	46.0	12.5	0.5	57.7	45.7	12.8
3:15 PM - 3:30 PM	58.8	47.3	12.1	0.5	58.3	47.0	12.4	0.5	57.8	46.8	12.7
3:30 PM - 3:45 PM	62.5	49.7	15.9	0.0	62.0	49.2	16.2	0.0	61.5	48.7	16.5
3:45 PM - 4:00 PM	54.3	49.7	5.8	1.5	53.8	49.2	6.1	1.5	53.3	48.7	6.4
4:00 PM - 4:15 PM	55.3	44.1	11.2	0.5	54.8	43.6	11.5	0.5	54.3	43.1	11.8
4:15 PM - 4:30 PM	60.1	48.6	11.5	0.5	59.6	48.1	11.8	0.5	59.1	47.6	12.1
4:30 PM - 4:45 PM	53.5	48.3	9.2	0.5	53.0	47.8	9.5	0.5	52.5	47.3	9.8
4:45 PM - 5:00 PM	54.2	48.1	8.1	1.5	53.7	47.9	8.4	1.5	53.2	47.6	8.7
5:00 PM - 5:15 PM	58.5	47.7	12.8	0.0	58.0	47.2	13.1	0.0	57.5	46.7	13.4
5:15 PM - 5:30 PM	58.9	48.5	12.4	0.5	58.4	48.0	12.7	0.5	57.9	47.5	13.0
5:30 PM - 5:45 PM	60.2	47.4	12.6	0.0	59.7	47.1	12.9	0.0	59.2	46.8	13.2
5:45 PM - 6:00 PM	63.1	53.4	11.7	0.5	62.6	53.1	12.0	0.5	62.1	52.6	12.3
6:00 PM - 6:15 PM	58.9	48.7	12.2	0.5	58.4	48.2	12.5	0.5	57.9	47.7	12.8
6:15 PM - 6:30 PM	52.1	50.4	2.7	3.0	51.6	49.9	3.0	3.0	51.1	49.4	3.3
6:30 PM - 6:45 PM	59.4	48.0	11.4	0.5	58.9	47.5	11.7	0.5	58.4	47.0	12.0
6:45 PM - 7:00 PM	62.1	48.8	12.2	0.5	61.6	48.3	12.5	0.5	61.1	47.8	12.8
7:00 PM - 7:15 PM	61.8	48.8	12.7	0.0	61.3	48.3	13.0	0.0	60.8	47.8	13.3
7:15 PM - 7:30 PM	60.1	45.3	14.9	0.0	59.6	44.8	15.2	0.0	59.1	44.3	15.5
7:30 PM - 7:45 PM	58.6	44.8	16.8	0.0	58.1	44.3	17.1	0.0	57.6	43.8	17.4
7:45 PM - 8:00 PM	62.7	45.2	18.1	0.0	62.2	44.7	18.4	0.0	61.7	44.2	18.7
8:00 PM - 8:15 PM	49.0	46.1	1.8	4.5	48.5	45.6	2.1	4.5	48.0	44.7	2.4
8:15 PM - 8:30 PM	57.3	48.3	9.0	0.5	56.8	47.8	9.3	0.5	56.3	47.3	9.6
8:30 AM - 8:45 AM	61.4	43.2	18.2	0.5	60.9	42.7	18.5	0.5	60.4	42.2	18.8
8:45 AM - 9:00 AM	58.4	48.1	10.3	0.5	57.9	47.6	10.6	0.5	57.4	47.1	10.9
9:00 AM - 9:15 AM	59.9	47.4	7.5	0.5	59.4	46.9	7.8	0.5	58.9	46.4	8.1
9:15 AM - 9:30 AM	55.5	48.0	9.5	0.5	55.0	47.5	9.8	0.5	54.5	47.0	10.1
9:30 AM - 9:45 AM	51.8	46.3	5.7	1.5	51.3	45.8	6.0	1.5	50.8	45.3	6.3
9:45 AM - 10:00 AM	59.3	44.9	14.4	0.0	58.8	44.4	14.7	0.0	58.3	43.9	15.0

Reference Method : ISO 1996-1

- หมายเหตุ :
1. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด
  2. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด
  3. ข้อมูลที่ได้จากการทดสอบ (ค่าเสียงรบกวน) เป็นค่าเฉลี่ยของค่าเสียงรบกวนที่วัดได้ ณ เวลาที่กำหนด

Approved by

Wibb.  
Wiborn Borkat  
Assistant Manager

The data results are valid only for the period of time specified in the report. Any data results outside of this period are not valid and should not be used for any purpose.

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# Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147444  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report Number : 2533973-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 3

Sample No. 22147444-14  
Parameter : เสียงรบกวน  
Location : บริเวณด้านหน้า หมู่ 2 ม.บางนา 15 (N2) (GPS 477 733675, 1434009)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Skrut Rungsom  
Sound Level Meter : 00296515

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนโดยประมาณ	ค่าเฉลี่ย (dB(A))		ค่าเฉลี่ยรวมจากแหล่งกำเนิดทั้งหมด	ค่าเฉลี่ยรวมจากแหล่งกำเนิดทั้งหมด	ค่าเฉลี่ยรวมจากแหล่งกำเนิดทั้งหมด
			ค่าเฉลี่ย	ค่าเฉลี่ย			
12:00 PM - 01:00 PM	52.3	27.6	9.2	0.5	51.8	44.4	17.1
01:00 PM - 02:00 PM	51.1	24.5	7.3	1.0	51.1	44.0	17.1
02:00 PM - 03:00 PM	56.2	27.3	9.0	0.5	55.7	43.3	20.4
03:00 PM - 04:00 PM	54.6	24.3	10.3	0.5	54.1	43.2	18.9
04:00 PM - 05:00 PM	54.7	26.9	7.6	0.5	54.2	42.9	18.9
05:00 PM - 06:00 PM	52.4	22.8	8.6	0.5	51.9	42.1	17.8
06:00 PM - 07:00 PM	51.6	23.2	7.9	0.5	51.1	42.0	17.1
07:00 PM - 08:00 PM	49.1	20.0	10.2	0.5	49.6	41.8	17.8
08:00 PM - 09:00 PM	52.9	20.2	7.8	0.5	52.4	42.2	14.2
09:00 PM - 10:00 PM	56.8	26.2	8.5	0.5	56.3	42.9	16.4
10:00 PM - 11:00 PM	54.8	23.1	11.7	0.5	53.3	39.0	16.3
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
02:00 PM - 03:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
03:00 PM - 04:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
04:00 PM - 05:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
05:00 PM - 06:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
06:00 PM - 07:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
07:00 PM - 08:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
08:00 PM - 09:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
09:00 PM - 10:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
10:00 PM - 11:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
11:00 PM - 12:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
12:00 PM - 01:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7
01:00 PM - 02:00 PM	52.3	24.9	2.1	2.0	52.3	41.6	18.7



## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533984-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 2 of 2

Sample No. : 22147448-8  
Parameter : Noise  
Location : บริเวณหน้าโรงงาน 2 ม.ตามแนวรั้ว 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sakrit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	43.3	51.3	38.3
12:35 AM - 12:40 AM	43.3	51.3	38.3
12:40 AM - 12:45 AM	41.3	51.3	37.3
12:45 AM - 12:50 AM	43.3	51.3	37.3
12:50 AM - 12:55 AM	40.3	51.3	37.3
12:55 AM - 01:00 AM	42.3	51.3	37.3
01:00 AM - 01:05 AM	37.3	51.3	37.3
01:05 AM - 01:10 AM	37.3	51.3	37.3
01:10 AM - 01:15 AM	40.3	51.3	37.3
01:15 AM - 01:20 AM	38.3	51.3	37.3
01:20 AM - 01:25 AM	37.3	51.3	37.3
01:25 AM - 01:30 AM	40.3	51.3	37.3
01:30 AM - 01:35 AM	37.3	51.3	37.3
01:35 AM - 01:40 AM	41.3	51.3	37.3
01:40 AM - 01:45 AM	38.3	51.3	37.3
01:45 AM - 01:50 AM	38.3	51.3	37.3
01:50 AM - 01:55 AM	43.3	51.3	37.3
01:55 AM - 02:00 AM	40.3	51.3	37.3
02:00 AM - 02:05 AM	38.3	51.3	37.3
02:05 AM - 02:10 AM	38.3	51.3	37.3
02:10 AM - 02:15 AM	42.3	51.3	37.3
02:15 AM - 02:20 AM	40.3	51.3	37.3
02:20 AM - 02:25 AM	42.3	51.3	37.3
02:25 AM - 02:30 AM	42.3	51.3	37.3
02:30 AM - 02:35 AM	39.3	51.3	37.3
02:35 AM - 02:40 AM	37.3	51.3	37.3
02:40 AM - 02:45 AM	37.3	51.3	37.3
02:45 AM - 02:50 AM	40.3	51.3	37.3
02:50 AM - 02:55 AM	41.3	51.3	37.3
02:55 AM - 03:00 AM	41.3	51.3	37.3
03:00 AM - 03:05 AM	41.3	51.3	37.3
03:05 AM - 03:10 AM	38.3	51.3	37.3
03:10 AM - 03:15 AM	43.3	51.3	37.3
03:15 AM - 03:20 AM	41.3	51.3	37.3
03:20 AM - 03:25 AM	37.3	51.3	37.3
03:25 AM - 03:30 AM	37.3	51.3	37.3
03:30 AM - 03:35 AM	42.3	51.3	37.3
03:35 AM - 03:40 AM	41.3	51.3	37.3
03:40 AM - 03:45 AM	38.3	51.3	37.3
03:45 AM - 03:50 AM	37.3	51.3	37.3

The above results are valid only for the stated conditions and are not to be used for any other purpose. The results are not to be used for any other purpose. The results are not to be used for any other purpose.

Approved by

Wibb.  
Wibwan Borikak  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533984-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. : 22147448-8  
Parameter : Noise  
Location : บริเวณหน้าโรงงาน 2 ม.ตามแนวรั้ว 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 19 - 20, 2022  
Measurement by : Sakrit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	37.3	51.3	37.3
03:55 AM - 04:00 AM	38.3	51.3	37.3
04:00 AM - 04:05 AM	48.3	68.3	38.3
04:05 AM - 04:10 AM	40.3	51.3	37.3
04:10 AM - 04:15 AM	44.3	51.3	37.3
04:15 AM - 04:20 AM	43.3	51.3	37.3
04:20 AM - 04:25 AM	35.3	43.3	34.3
04:25 AM - 04:30 AM	35.3	43.3	34.3
04:30 AM - 04:35 AM	42.3	51.3	37.3
04:35 AM - 04:40 AM	49.3	59.3	38.3
04:40 AM - 04:45 AM	42.3	51.3	37.3
04:45 AM - 04:50 AM	46.3	51.3	37.3
04:50 AM - 04:55 AM	51.3	61.3	40.3
04:55 AM - 05:00 AM	45.3	56.3	38.3
05:00 AM - 05:05 AM	45.3	56.3	38.3
05:05 AM - 05:10 AM	44.3	54.3	37.3
05:10 AM - 05:15 AM	45.3	55.3	38.3
05:15 AM - 05:20 AM	46.3	56.3	38.3
05:20 AM - 05:25 AM	48.3	58.3	39.3
05:25 AM - 05:30 AM	49.3	61.3	39.3
05:30 AM - 05:35 AM	49.3	62.3	39.3
05:35 AM - 05:40 AM	48.3	58.3	38.3
05:40 AM - 05:45 AM	49.3	61.3	40.3
05:45 AM - 05:50 AM	46.3	56.3	43.3
05:50 AM - 05:55 AM	50.3	61.3	42.3
05:55 AM - 06:00 AM	52.3	67.3	43.3
06:00 AM - 06:05 AM	53.3	68.3	44.3
06:05 AM - 06:10 AM	57.3	73.3	46.3
06:10 AM - 06:15 AM	51.3	70.3	49.3
06:15 AM - 06:20 AM	56.3	78.3	48.3
06:20 AM - 06:25 AM	54.3	72.3	47.3
06:25 AM - 06:30 AM	51.3	71.3	46.3

Reference Method : ISO 1996-1

The above results are valid only for the stated conditions and are not to be used for any other purpose. The results are not to be used for any other purpose. The results are not to be used for any other purpose.

Approved by

Wibb.  
Wibwan Borikak  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported : Jan 04, 2023  
Report No. : 2533985-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 2

Sample No. : 22147448-9  
Parameter : Noise  
Location : บริเวณหน้าโรงงาน 2 ม.ตามแนวรั้ว 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 20 - 21, 2022  
Measurement by : Sakrit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 12:05 PM	32.6	71.4	44.1
12:05 PM - 12:10 PM	32.5	69.1	43.0
12:10 PM - 12:15 PM	34.4	76.9	45.7
12:15 PM - 12:20 PM	32.8	71.4	44.5
12:20 PM - 12:25 PM	33.0	68.4	43.0
12:25 PM - 12:30 PM	35.9	82.0	50.2
12:30 PM - 12:35 PM	34.1	74.2	49.8
12:35 PM - 12:40 PM	33.8	68.3	48.4
12:40 PM - 12:45 PM	34.7	74.8	47.8
12:45 PM - 12:50 PM	30.0	68.3	43.5
12:50 PM - 12:55 PM	37.8	61.4	42.5
12:55 PM - 1:01:00 PM	38.0	59.0	41.3
1:01:00 PM - 1:05:15 PM	40.0	58.7	41.4
1:05:15 PM - 1:10:30 PM	46.6	56.1	44.0
1:10:30 PM - 1:15:45 PM	50.1	62.8	47.8
1:15:45 PM - 1:20:30 PM	47.2	56.2	41.5
1:20:30 PM - 1:25:35 PM	47.0	58.3	42.5
1:25:35 PM - 1:30:40 PM	48.8	54.5	43.5
1:30:40 PM - 1:35:45 PM	45.5	53.3	41.0
1:35:45 PM - 1:40:50 PM	44.1	54.2	41.5
1:40:50 PM - 1:45:55 PM	43.5	51.4	40.3
1:45:55 PM - 1:50:00 PM	42.0	60.4	41.5
1:50:00 PM - 1:55:05 PM	43.8	58.2	40.9
1:55:05 PM - 1:10:10 PM	43.5	62.4	41.1
1:10:10 PM - 1:15:15 PM	41.6	55.4	41.6
1:15:15 PM - 1:20:20 PM	47.5	54.6	41.1
1:20:20 PM - 1:25:35 PM	43.0	57.3	41.0
1:25:35 PM - 1:30:40 PM	40.5	61.1	41.6
1:30:40 PM - 1:35:45 PM	44.1	55.2	40.8
1:35:45 PM - 1:40:50 PM	44.2	60.4	41.5
1:40:50 PM - 1:45:55 PM	47.7	58.3	40.7
1:45:55 PM - 1:50:00 PM	43.0	51.2	40.3
1:50:00 PM - 1:55:05 PM	46.0	60.0	40.8
1:55:05 PM - 2:00:00 PM	48.3	66.9	42.0
2:00:00 PM - 2:05:05 PM	44.1	55.3	41.1
2:05:05 PM - 2:10:10 PM	45.1	54.6	40.3
2:10:10 PM - 2:15:15 PM	42.0	55.8	39.8
2:15:15 PM - 2:20:20 PM	48.8	61.7	39.6
2:20:20 PM - 2:25:25 PM	44.6	58.4	39.8
2:25:25 PM - 2:30:30 PM	41.8	51.6	39.8



## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phien, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No. : 2533955-1

P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-9  
Parameter : Noise  
Location : ถนนพหลโยธิน กม 2 ทางแยก 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 20 - 21, 2022  
Measurement by : Sirin Rungsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:30 AM - 03:55 AM	39.5	41.8	38.1
03:55 AM - 04:10 AM	40.8	43.2	38.5
04:10 AM - 04:35 AM	42.9	45.9	40.0
04:35 AM - 04:55 AM	43.5	47.0	39.9
04:55 AM - 05:15 AM	41.1	43.7	38.9
05:15 AM - 05:35 AM	43.8	48.1	41.1
05:35 AM - 05:55 AM	43.3	47.3	40.2
05:55 AM - 06:15 AM	43.8	47.0	39.7
06:15 AM - 06:35 AM	44.6	47.9	40.7
06:35 AM - 06:55 AM	43.2	46.2	40.3
06:55 AM - 07:15 AM	46.8	54.3	44.6
07:15 AM - 07:35 AM	47.5	54.4	43.5
07:35 AM - 07:55 AM	52.8	57.7	43.7
07:55 AM - 08:15 AM	47.9	58.7	41.8
08:15 AM - 08:35 AM	49.4	59.8	40.8
08:35 AM - 08:55 AM	48.3	58.2	42.6
08:55 AM - 09:15 AM	47.7	58.4	41.6
09:15 AM - 09:35 AM	46.2	56.1	40.8
09:35 AM - 09:55 AM	47.4	57.2	42.2
09:55 AM - 10:15 AM	44.7	54.1	40.5
10:15 AM - 10:35 AM	46.4	60.3	40.6
10:35 AM - 10:55 AM	47.4	61.4	41.8
10:55 AM - 11:15 AM	48.4	58.3	42.1
11:15 AM - 11:35 AM	44.9	52.3	42.9
11:35 AM - 11:55 AM	50.2	62.4	43.4
11:55 AM - 12:15 PM	48.2	58.4	43.2
12:15 PM - 12:35 PM	53.3	71.5	48.1
12:35 PM - 12:55 PM	57.6	76.5	51.9
12:55 PM - 01:15 PM	54.6	70.2	48.6
01:15 PM - 01:35 PM	57.6	69.3	47.1
01:35 PM - 01:55 PM	55.1	70.3	43.8
01:55 PM - 12:00 PM	51.0	68.2	43.0

Reference Method : ISO 1996-1

Approved by

Wilawan Borkak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phien, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No. : 2533955-1

P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-10  
Parameter : Noise  
Location : ถนนพหลโยธิน กม 2 ทางแยก 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Sirin Rungsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 12:20 PM	53.9	72.8	42.3
12:20 PM - 12:40 PM	53.9	68.7	43.8
12:40 PM - 13:00 PM	52.6	69.5	43.0
13:00 PM - 13:20 PM	52.9	68.2	43.7
13:20 PM - 13:40 PM	54.4	71.0	46.6
13:40 PM - 14:00 PM	58.3	75.2	48.2
14:00 PM - 14:20 PM	53.1	75.5	46.4
14:20 PM - 14:40 PM	52.9	71.1	46.7
14:40 PM - 15:00 PM	52.0	65.6	46.8
15:00 PM - 15:20 PM	52.0	65.7	45.7
15:20 PM - 15:40 PM	44.3	52.9	43.1
15:40 PM - 16:00 PM	44.6	53.1	40.8
16:00 PM - 16:20 PM	44.6	53.0	40.7
16:20 PM - 16:40 PM	44.6	52.7	41.0
16:40 PM - 17:00 PM	48.9	59.6	41.4
17:00 PM - 17:20 PM	50.4	57.8	39.3
17:20 PM - 17:40 PM	45.0	61.0	40.3
17:40 PM - 18:00 PM	48.9	63.5	40.4
18:00 PM - 18:20 PM	44.6	55.6	40.1
18:20 PM - 18:40 PM	42.1	46.2	40.6
18:40 PM - 19:00 PM	44.6	52.4	40.8
19:00 PM - 19:20 PM	40.8	52.6	40.8
19:20 PM - 19:40 PM	43.8	53.6	39.4
19:40 PM - 20:00 PM	43.8	52.6	39.4
20:00 PM - 20:20 PM	43.8	52.6	39.4
20:20 PM - 20:40 PM	43.8	52.6	39.4
20:40 PM - 21:00 PM	43.8	52.6	39.4
21:00 PM - 21:20 PM	43.8	52.6	39.4
21:20 PM - 21:40 PM	43.8	52.6	39.4
21:40 PM - 22:00 PM	43.8	52.6	39.4
22:00 PM - 22:20 PM	43.8	52.6	39.4
22:20 PM - 22:40 PM	43.8	52.6	39.4
22:40 PM - 23:00 PM	43.8	52.6	39.4
23:00 PM - 23:20 PM	43.8	52.6	39.4
23:20 PM - 23:40 PM	43.8	52.6	39.4
23:40 PM - 24:00 PM	43.8	52.6	39.4

Approved by

Wilawan Borkak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phien, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No. : 2533955-1

P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-10  
Parameter : Noise  
Location : ถนนพหลโยธิน กม 2 ทางแยก 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Sirin Rungsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:55 AM	39.5	41.8	38.1
12:55 AM - 01:10 AM	42.9	45.9	40.0
01:10 AM - 01:35 AM	43.5	47.0	39.9
01:35 AM - 01:55 AM	41.1	43.7	38.9
01:55 AM - 02:15 AM	43.8	48.1	41.1
02:15 AM - 02:35 AM	43.3	47.3	40.2
02:35 AM - 02:55 AM	43.8	47.0	39.7
02:55 AM - 03:15 AM	44.6	47.9	40.7
03:15 AM - 03:35 AM	43.2	46.2	40.3
03:35 AM - 03:55 AM	46.8	54.3	44.6
03:55 AM - 04:15 AM	47.5	54.4	43.5
04:15 AM - 04:35 AM	52.8	57.7	43.7
04:35 AM - 04:55 AM	47.9	58.7	41.8
04:55 AM - 05:15 AM	49.4	59.8	40.8
05:15 AM - 05:35 AM	48.3	58.2	42.6
05:35 AM - 05:55 AM	47.7	58.4	41.6
05:55 AM - 06:15 AM	46.2	56.1	40.8
06:15 AM - 06:35 AM	47.4	57.2	42.2
06:35 AM - 06:55 AM	44.7	54.1	40.5
06:55 AM - 07:15 AM	46.4	60.3	40.6
07:15 AM - 07:35 AM	47.4	61.4	41.8
07:35 AM - 07:55 AM	48.4	58.3	42.1
07:55 AM - 08:15 AM	44.9	52.3	42.9
08:15 AM - 08:35 AM	50.2	62.4	43.4
08:35 AM - 08:55 AM	48.2	58.4	43.2
08:55 AM - 09:15 AM	53.3	71.5	48.1
09:15 AM - 09:35 AM	57.6	76.5	51.9
09:35 AM - 09:55 AM	54.6	70.2	48.6
09:55 AM - 10:15 AM	57.6	69.3	47.1
10:15 AM - 10:35 AM	55.1	70.3	43.8
10:35 AM - 10:55 AM	51.0	68.2	43.0

Approved by

Wilawan Borkak  
Assistant Manager

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Sample No. : 22147448-10



## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phien, Pluak Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No. : 2533955-1

P/O : R/JN(2)-030/65  
Project Name : Pluak Daeng  
Project Location :

Sample No. : 22147448-10  
Parameter : Noise  
Location : ถนนพหลโยธิน กม 2 ทางแยก 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 21 - 22, 2022  
Measurement by : Sirin Rungsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:30 AM - 03:55 AM	44.0	57.7	37.3
03:55 AM - 04:10 AM	42.6	55.3	35.7
04:10 AM - 04:35 AM	36.4	51.4	30.5
04:35 AM - 04:55 AM	47.0	58.8	38.4
04:55 AM - 05:15 AM	44.7	57.7	38.0
05:15 AM - 05:35 AM	46.7	63.1	38.7
05:35 AM - 05:55 AM	40.2	51.3	37.6
05:55 AM - 06:15 AM	44.9	54.9	38.8
06:15 AM - 06:35 AM	43.9	53.1	38.9
06:35 AM - 06:55 AM	43.0	51.8	38.4
06:55 AM - 07:15 AM	46.0	54.6	35.0
07:15 AM - 07:35 AM	48.7	64.4	39.0
07:35 AM - 07:55 AM	48.5	61.2	39.3
07:55 AM - 08:15 AM	50.2	63.4	39.9
08:15 AM - 08:35 AM	52.0	67.4	40.4
08:35 AM - 08:55 AM	48.1	58.4	40.3
08:55 AM - 09:15 AM	45.4	53.3	39.3
09:15 AM - 09:35 AM	52.3	66.5	40.3
09:35 AM - 09:55 AM	49.8	61.4	40.5
09:55 AM - 10:15 AM	46.9	60.6	40.5
10:15 AM - 10:35 AM	49.2	62.0	39.8
10:35 AM - 10:55 AM	47.0	58.6	40.1
10:55 AM - 11:15 AM	51.5	67.5	42.2
11:15 AM - 11:35 AM	50.3	63.5	42.0
11:35 AM - 11:55 AM	49.2	62.5	41.5
11:55 AM - 12:15 PM	50.9	63.9	42.2
12:15 PM - 12:35 PM	50.3	63.5	42.0
12:35 PM - 12:55 PM	50.9	63.9	42.2
12:55 PM - 01:15 PM	50.9	63.9	42.2
01:15 PM - 01:35 PM	50.9	63.9	42.2
01:35 PM - 01:55 PM	50.9	63.9	42.2
01:55 PM - 02:15 PM	50.9	63.9	42.2
02:15 PM - 02:35 PM	50.9	63.9	42.2
02:35 PM - 02:55 PM	50.9	63.9	42.2
02:55 PM - 03:15 PM	50.9	63.9	42.2
03:15 PM - 03:35 AM	50.9	63.9	42.2

Reference Method : ISO 1996-1

Approved by

Wilawan Borkak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported Jan 04, 2023  
Report No. : 2533987-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. : 22147448-11  
Parameter : Noise  
Location : อุโมงค์รถไฟ 2 ข้ามถนน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Sirinut Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	51.4	63.1	47.1
01:00 PM - 02:00 PM	52.7	72.4	45.4
02:00 PM - 03:00 PM	57.9	72.0	50.5
03:00 PM - 04:00 PM	51.7	69.2	45.1
04:00 PM - 05:00 PM	58.2	75.3	47.2
05:00 PM - 06:00 PM	54.6	74.1	46.7
06:00 PM - 07:00 PM	51.1	71.1	46.9
07:00 PM - 08:00 PM	51.2	68.8	44.3
08:00 PM - 09:00 PM	51.7	66.7	44.4
09:00 PM - 10:00 PM	46.5	71.1	41.3
10:00 PM - 11:00 PM	45.4	67.5	40.7
11:00 PM - 12:00 AM	44.4	64.5	40.7
12:00 AM - 01:00 AM	51.2	71.2	41.8
01:00 AM - 02:00 AM	50.9	66.1	41.2
02:00 AM - 03:00 AM	47.0	62.5	41.8
03:00 AM - 04:00 AM	47.7	66.9	40.8
04:00 AM - 05:00 AM	46.3	64.5	40.9
05:00 AM - 06:00 AM	45.5	62.3	39.5
06:00 AM - 07:00 AM	46.3	62.5	40.3
07:00 AM - 08:00 AM	46.5	62.7	40.3
08:00 AM - 09:00 AM	44.4	64.0	38.4
09:00 AM - 10:00 AM	44.7	65.4	39.1
10:00 AM - 11:00 AM	46.1	68.4	39.8
11:00 PM - 12:00 AM	44.4	65.0	39.3
12:00 AM - 01:00 AM	46.9	68.1	39.9
01:00 AM - 02:00 AM	45.4	66.0	39.0
02:00 AM - 03:00 AM	48.8	61.8	41.3
03:00 AM - 04:00 AM	44.6	63.7	40.0
04:00 AM - 05:00 AM	45.5	65.2	41.4
05:00 AM - 06:00 AM	42.3	61.3	39.8
06:00 AM - 07:00 AM	41.4	64.4	39.5
07:00 AM - 08:00 AM	40.4	66.7	38.8
08:00 AM - 09:00 AM	40.3	68.7	37.8
09:00 AM - 10:00 AM	44.6	68.5	38.5
10:00 AM - 11:00 AM	44.4	61.9	37.9
11:00 AM - 12:00 PM	41.4	61.2	38.0
12:00 PM - 01:00 AM	48.3	61.0	39.1
01:00 AM - 02:00 AM	48.7	64.6	38.1

The above result is valid only for the use and condition specified and is not valid for any other use. The result is not valid for any other use. The result is not valid for any other use.

Approved by

WibB.  
Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported Jan 04, 2023  
Report No. : 2533987-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. : 22147448-11  
Parameter : Noise  
Location : อุโมงค์รถไฟ 2 ข้ามถนน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Sirinut Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	46.0	62.3	42.3
01:00 PM - 02:00 PM	44.4	60.3	38.7
02:00 PM - 03:00 PM	44.6	59.7	39.8
03:00 PM - 04:00 PM	51.6	62.5	46.1
04:00 PM - 05:00 PM	45.1	55.8	40.1
05:00 PM - 06:00 PM	40.3	47.8	34.2
06:00 PM - 07:00 PM	40.5	50.8	37.5
07:00 PM - 08:00 PM	41.0	54.6	37.6
08:00 PM - 09:00 PM	38.7	41.4	34.3
09:00 PM - 10:00 PM	39.5	45.5	34.8
10:00 PM - 11:00 PM	39.5	41.7	34.2
11:00 PM - 12:00 AM	40.6	46.9	39.1
12:00 AM - 01:00 AM	38.6	45.9	37.6
01:00 AM - 02:00 AM	40.3	49.1	37.4
02:00 AM - 03:00 AM	42.6	50.9	38.0
03:00 AM - 04:00 AM	42.9	46.8	40.5
04:00 AM - 05:00 AM	44.9	60.3	34.2
05:00 AM - 06:00 AM	38.5	39.6	37.8
06:00 AM - 07:00 AM	48.9	50.7	38.0
07:00 AM - 08:00 AM	37.8	41.3	35.9
08:00 AM - 09:00 AM	41.9	54.8	37.4
09:00 AM - 10:00 AM	39.3	43.7	38.2
10:00 AM - 11:00 AM	41.4	55.2	37.0
11:00 PM - 12:00 AM	41.2	54.2	38.2
12:00 AM - 01:00 AM	42.7	59.5	37.1
01:00 AM - 02:00 AM	40.8	52.1	37.0
02:00 AM - 03:00 AM	40.3	47.9	37.9
03:00 AM - 04:00 AM	39.2	45.2	38.2
04:00 AM - 05:00 AM	49.1	49.1	37.7
05:00 AM - 06:00 AM	38.6	45.4	37.2
06:00 AM - 07:00 AM	43.8	55.4	36.6
07:00 AM - 08:00 AM	40.3	47.8	36.7
08:00 PM - 09:00 PM	40.0	44.0	37.0
09:00 PM - 10:00 PM	43.2	54.1	38.8
10:00 PM - 11:00 PM	42.0	46.4	38.0
11:00 PM - 12:00 AM	40.9	44.0	37.9
12:00 AM - 01:00 AM	39.9	42.1	38.7
01:00 AM - 02:00 AM	38.9	43.8	37.3

The above result is valid only for the use and condition specified and is not valid for any other use. The result is not valid for any other use. The result is not valid for any other use.

Approved by

WibB.  
Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported Jan 04, 2023  
Report No. : 2533987-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. : 22147448-11  
Parameter : Noise  
Location : อุโมงค์รถไฟ 2 ข้ามถนน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 22 - 23, 2022  
Measurement by : Sirinut Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 AM - 03:15 AM	42.5	52.1	37.8
03:15 AM - 03:30 AM	39.9	46.3	34.8
03:30 AM - 03:45 AM	45.2	58.8	37.9
03:45 AM - 04:00 AM	41.4	50.7	34.4
04:00 AM - 04:15 AM	43.7	52.1	36.9
04:15 AM - 04:30 AM	41.2	51.2	34.8
04:30 AM - 04:45 AM	46.5	64.4	39.1
04:45 AM - 05:00 AM	41.6	52.1	36.6
05:00 AM - 05:15 AM	40.2	52.1	40.4
05:15 AM - 05:30 AM	43.1	50.3	40.3
05:30 AM - 05:45 AM	49.1	62.3	40.9
05:45 AM - 06:00 AM	42.8	56.4	40.5
06:00 AM - 06:15 AM	47.7	62.3	40.3
06:15 AM - 06:30 AM	45.9	60.3	38.5
06:30 AM - 06:45 AM	52.1	67.1	38.2
06:45 AM - 07:00 AM	44.6	51.8	38.3
07:00 AM - 07:15 AM	47.0	56.7	40.9
07:15 AM - 07:30 AM	51.5	63.7	42.3
07:30 AM - 07:45 AM	47.1	58.4	41.5
07:45 AM - 08:00 AM	48.5	62.3	42.4
08:00 AM - 08:15 AM	46.2	58.4	41.2
08:15 AM - 08:30 AM	51.1	64.2	44.3
08:30 AM - 08:45 AM	48.4	56.7	44.3
08:45 AM - 09:00 AM	46.6	64.2	42.3
09:00 AM - 09:15 AM	46.9	58.5	44.2
09:15 AM - 09:30 AM	40.3	61.8	44.1
09:30 AM - 09:45 AM	54.2	71.5	48.9
09:45 AM - 10:00 AM	37.8	76.3	51.3
10:00 AM - 10:15 AM	54.6	77.1	48.3
10:15 AM - 10:30 AM	54.7	76.4	44.3
10:30 AM - 10:45 AM	54.3	75.7	44.5
10:45 AM - 11:00 PM	57.3	77.9	45.2

Reference Method : ISO 1996-1

Approved by

WibB.  
Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phoo, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received : Dec 27, 2022  
Date Reported Jan 04, 2023  
Report No. : 2533987-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. : 22147448-12  
Parameter : Noise  
Location : อุโมงค์รถไฟ 2 ข้ามถนน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 23 - 24, 2022  
Measurement by : Sirinut Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	51.5	61.3	43.2
01:00 PM - 02:00 PM	58.4	61.2	45.2
02:00 PM - 03:00 PM	60.1	61.8	46.1
03:00 PM - 04:00 PM	52.5	57.4	44.1
04:00 PM - 05:00 PM	52.7	58.3	46.1
05:00 PM - 06:00 PM	56.7	79.5	46.0
06:00 PM - 07:00 PM	51.6	56.1	40.9
07:00 PM - 08:00 PM	54.3	59.2	46.7
08:00 PM - 09:00 PM	57.0	71.9	47.8
09:00 PM - 10:00 PM	51.2	75.2	43.5
10:00 PM - 11:00 PM	50.2	64.8	41.6
11:00 PM - 12:00 AM	47.3	57.1	40.0
12:00 AM - 01:00 AM	47.8	57.6	42.8
01:00 AM - 02:00 PM	51.8	57.8	41.5
02:00 PM - 03:00 PM	48.5	58.7	41.1
03:00 PM - 04:00 PM	46.4	58.4	40.0
04:00 PM - 05:00 PM	47.1	61.8	41.4
05:00 PM - 06:00 PM	46.4	58.4	41.0
06:00 PM - 07:00 PM	44.2	52.8	40.4
07:00 PM - 08:00 PM	45.6	54.6	41.5
08:00 PM - 09:00 PM	44.3	54.7	43.2
09:00 PM - 10:00 PM	47.8	59.2	41.5
10:00 PM - 11:00 PM	47.5	58.2	40.4
11:00 PM - 12:00 AM	46.2	54.6	40.1
12:00 AM - 01:00 PM	44.2	52.9	39.7
01:00 PM - 02:00 PM	47.2	54.2	39.4
02:00 PM - 03:00 PM	46.3	50.6	38.5
03:00 PM - 04:00 PM	46.3	50.2	37.9
04:00 PM - 05:00 PM	46.5	58.4	38.4
05:00 PM - 06:00 PM	45.8	61.0	38.5
06:00 PM - 07:00 PM	44.4	52.8	38.0
07:00 PM - 08:00 PM	43.1	53.9	37.4
08:00 PM - 09:00 PM	42.0	52.5	37.0
09:00 PM - 10:00 PM	47.2	64.0	38.5
10:00 PM - 11:00 PM	41.8	51.4	36.7
11:00 PM - 12:00 AM	42.5	52.3	36.7
12:00 AM - 01:00 AM	50.0	62.1	39.5
01:00 AM - 02:00 AM	47.3	56.5	40.4
02:00 AM - 03:00 PM	40.8	47.8	36.1

The above result is valid only for the use and condition specified and is not valid for any other use. The result is not valid for any other use. The result is not valid for any other use.

Approved by

WibB.  
Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533989-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 2 of 3

Sample No. 22147448-12  
Parameter Noise  
Location ชุมชนใกล้วัง 2 ม.ตามแนว 15 (N2) (GPS 477 733675, 1434009) (Shut down)  
Measurement Date Dec 23 - 24, 2022  
Measurement by Sivrit Ruangsom  
Sound Level Meter 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	45.4	59.3	36.3
12:35 AM - 12:40 AM	44.8	56.3	35.7
12:40 AM - 12:45 AM	43.7	51.8	28.3
12:45 AM - 12:50 AM	36.9	26.8	26.7
12:50 AM - 12:55 AM	41.9	52.3	34.4
12:55 AM - 01:00 AM	41.9	51.8	37.8
01:00 AM - 01:05 AM	44.1	53.2	32.5
01:05 AM - 01:10 AM	46.5	57.2	34.5
01:10 AM - 01:15 AM	48.2	62.2	36.5
01:15 AM - 01:20 AM	38.5	48.4	16.8
01:20 AM - 01:25 AM	42.3	51.8	37.7
01:25 AM - 01:30 AM	38.4	45.8	37.5
01:30 AM - 01:35 AM	41.1	51.0	41.0
01:35 AM - 01:40 AM	41.8	46.9	38.5
01:40 AM - 01:45 AM	39.3	43.0	39.3
01:45 AM - 01:50 AM	40.4	44.9	39.0
01:50 AM - 01:55 AM	41.5	53.0	38.0
01:55 AM - 02:00 AM	39.4	51.3	37.4
02:00 AM - 02:05 AM	38.5	49.8	36.9
02:05 AM - 02:10 AM	39.5	50.8	38.8
02:10 AM - 02:15 AM	42.0	54.8	37.2
02:15 AM - 02:20 AM	44.4	58.4	38.5
02:20 AM - 02:25 AM	42.1	48.9	38.0
02:25 AM - 02:30 AM	49.3	62.6	38.8
02:30 AM - 02:35 AM	42.5	52.3	38.0
02:35 AM - 02:40 AM	43.2	67.8	37.0
02:40 AM - 02:45 AM	40.5	54.8	37.0
02:45 AM - 02:50 AM	40.8	53.8	37.0
02:50 AM - 02:55 AM	38.4	49.8	37.0
02:55 AM - 03:00 AM	42.2	51.4	37.4
03:00 AM - 03:05 AM	44.1	55.0	39.6
03:05 AM - 03:10 AM	41.0	51.4	38.9
03:10 AM - 03:15 AM	40.9	52.4	39.1
03:15 AM - 03:20 AM	41.6	52.4	39.7
03:20 AM - 03:25 AM	41.4	51.7	39.3
03:25 AM - 03:30 AM	39.3	50.2	38.2
03:30 AM - 03:35 AM	40.2	52.1	36.3
03:35 AM - 03:40 AM	39.6	50.9	36.4
03:40 AM - 03:45 AM	41.6	52.3	36.5
03:45 AM - 03:50 AM	42.4	53.2	37.5

Approved by

Wibb.

Wiborn Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533989-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. 22147448-12  
Parameter Noise  
Location ชุมชนใกล้วัง 2 ม.ตามแนว 15 (N2) (GPS 477 733675, 1434009) (Shut down)  
Measurement Date Dec 23 - 24, 2022  
Measurement by Sivrit Ruangsom  
Sound Level Meter 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	43.5	51.1	45.8
03:55 AM - 04:00 AM	43.6	55.8	47.4
04:00 AM - 04:05 AM	48.0	59.3	37.7
04:05 AM - 04:10 AM	39.3	47.2	36.3
04:10 AM - 04:15 AM	46.7	52.4	38.4
04:15 AM - 04:20 AM	49.1	54.6	36.1
04:20 AM - 04:25 AM	45.7	54.6	36.4
04:25 AM - 04:30 AM	43.7	54.0	36.0
04:30 AM - 04:35 AM	41.8	51.7	37.0
04:35 AM - 04:40 AM	43.5	54.8	37.4
04:40 AM - 04:45 AM	48.5	60.5	38.2
04:45 AM - 04:50 AM	46.3	56.9	39.0
04:50 AM - 04:55 AM	46.9	61.8	37.7
04:55 AM - 05:00 AM	46.7	62.1	37.8
05:00 AM - 05:05 AM	51.0	62.4	39.4
05:05 AM - 05:10 AM	45.2	55.4	38.6
05:10 AM - 05:15 AM	45.8	55.6	39.1
05:15 AM - 05:20 AM	40.7	50.4	37.2
05:20 AM - 05:25 AM	44.4	52.2	37.9
05:25 AM - 05:30 AM	46.9	54.3	39.4
05:30 AM - 05:35 AM	46.3	62.8	39.8
05:35 AM - 05:40 AM	45.8	55.2	38.7
05:40 AM - 05:45 AM	44.6	55.5	39.8
05:45 AM - 05:50 AM	45.0	55.0	39.8
05:50 AM - 05:55 AM	46.3	55.1	40.9
05:55 AM - 06:00 AM	46.3	52.7	40.8
06:00 AM - 06:05 AM	52.2	67.2	43.5
06:05 AM - 06:10 AM	35.7	35.0	40.9
06:10 AM - 06:15 AM	44.8	51.8	41.0
06:15 AM - 06:20 AM	38.9	48.3	46.3
06:20 AM - 06:25 AM	34.4	49.8	45.4
06:25 AM - 06:30 AM	33.6	33.6	45.1

Reference Method : ISO 1996-1

Approved by

Wibb.

Wiborn Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533989-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 3

Sample No. 22147448-13  
Parameter Noise  
Location ชุมชนใกล้วัง 2 ม.ตามแนว 15 (N2) (GPS 477 733675, 1434009) (Shut down)  
Measurement Date Dec 24 - 25, 2022  
Measurement by Sivrit Ruangsom  
Sound Level Meter 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 12:05 PM	44.2	60.6	46.8
01:00 PM - 01:05 PM	52.0	68.6	44.2
02:00 PM - 02:05 PM	54.2	75.6	44.8
03:00 PM - 03:05 PM	54.4	78.8	44.5
04:00 PM - 04:05 PM	52.9	68.7	46.7
05:00 PM - 05:05 PM	54.6	71.8	48.4
06:00 PM - 06:05 PM	52.3	68.5	47.0
07:00 PM - 07:05 PM	53.7	78.4	45.4
08:00 PM - 08:05 PM	51.6	71.3	45.0
09:00 PM - 09:05 PM	50.3	66.8	44.6
10:00 PM - 10:05 PM	46.5	57.4	41.3
10:05 PM - 10:10 PM	49.3	64.2	41.4
10:10 PM - 10:15 PM	46.5	55.9	41.0
10:15 PM - 10:20 PM	47.1	59.0	41.8
10:20 PM - 10:25 PM	48.7	58.9	41.8
10:25 PM - 10:30 PM	48.7	62.4	39.8
10:30 PM - 10:35 PM	44.2	51.3	39.8
10:35 PM - 10:40 PM	46.9	60.9	40.5
10:40 PM - 10:45 PM	46.3	57.3	40.9
10:45 PM - 10:50 PM	46.3	65.0	40.9
10:50 PM - 10:55 PM	43.1	51.0	41.1
10:55 PM - 11:00 PM	44.5	52.2	40.9
11:00 PM - 11:05 PM	47.4	60.3	41.3
11:05 PM - 11:10 PM	52.1	68.7	46.8
11:10 PM - 11:15 PM	46.7	58.3	41.5
11:15 PM - 11:20 PM	50.4	68.4	36.5
11:20 PM - 11:25 PM	43.7	46.7	40.7
11:25 PM - 11:30 PM	47.2	63.6	41.4
11:30 PM - 11:35 PM	48.8	62.6	41.0
11:35 PM - 11:40 PM	45.2	56.4	39.8
11:40 PM - 11:45 PM	45.2	59.9	39.9
11:45 PM - 11:50 PM	44.2	53.8	39.7
11:50 PM - 11:55 PM	46.1	54.9	40.9
11:55 PM - 12:00 AM	46.3	58.7	38.7
12:00 AM - 12:05 AM	48.2	58.2	38.4
12:05 AM - 12:10 AM	48.1	45.5	38.5
12:10 AM - 12:15 AM	43.4	54.3	37.8
12:15 AM - 12:20 AM	46.0	58.3	40.2
12:20 AM - 12:25 AM	46.1	57.9	38.7
12:25 AM - 12:30 AM	46.9	55.8	38.5

Approved by

Wibb.

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533989-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Sample No. 22147448-13  
Parameter Noise  
Location ชุมชนใกล้วัง 2 ม.ตามแนว 15 (N2) (GPS 477 733675, 1434009) (Shut down)  
Measurement Date Dec 24 - 25, 2022  
Measurement by Sivrit Ruangsom  
Sound Level Meter 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 PM - 12:35 PM	48.3	59.8	46.8
12:35 PM - 12:40 PM	43.9	52.3	39.5
12:40 PM - 12:45 PM	45.4	56.4	38.4
12:45 PM - 12:50 PM	51.1	67.0	39.3
12:50 PM - 12:55 PM	44.3	56.5	37.1
12:55 PM - 01:00 AM	43.8	53.0	37.5
01:00 AM - 01:05 AM	42.0	53.0	37.2
01:05 AM - 01:10 AM	45.8	58.3	38.3
01:10 AM - 01:15 AM	42.9	55.9	37.8
01:15 AM - 01:20 AM	42.4	55.6	38.7
01:20 AM - 01:25 AM	39.7	50.7	36.0
01:25 AM - 01:30 AM	38.8	48.5	35.5
01:30 AM - 01:35 AM	39.9	49.7	35.8
01:35 AM - 01:40 AM	40.2	54.4	36.8
01:40 AM - 01:45 AM	41.5	59.2	37.1
01:45 AM - 01:50 AM	37.3	44.4	35.5
01:50 AM - 01:55 AM	46.3	62.7	36.1
01:55 AM - 02:00 AM	42.3	52.2	35.4
02:00 AM - 02:05 AM	40.9	61.4	37.2
02:05 AM - 02:10 AM	41.8	54.6	36.1
02:10 AM - 02:15 AM	40.8	54.5	36.0
02:15 AM - 02:20 AM	41.1	58.1	36.1
02:20 AM - 02:25 AM	46.7	59.1	37.4
02:25 AM - 02:30 AM	40.3	56.4	36.4
02:30 AM - 02:35 AM	40.7	50.2	36.1
02:35 AM - 02:40 AM	41.9	54.9	35.7
02:40 AM - 02:45 AM	41.7	52.3	35.6
02:45 AM - 02:50 AM	40.7	50.4	35.9
02:50 AM - 02:55 AM	40.0	52.9	34.9
02:55 AM - 03:00 AM	37.8	45.6	33.0
03:00 AM - 03:05 AM	37.0	47.3	34.6
03:05 AM - 03:10 AM	36.8	51.6	33.0
03:10 AM - 03:15 AM	37.3	49.3	34.8
03:15 AM - 03:20 AM	40.3	55.3	34.3
03:20 AM - 03:25 AM	46.7	64.7	35.3
03:25 AM - 03:30 AM	41.7	56.4	35.0
03:30 AM - 03:35 AM	41.7	55.8	35.9
03:35 AM - 03:40 AM	40.7	50.7	35.4
03:40 AM - 03:45 AM	44.2	59.3	35.5
03:45 AM - 03:50 AM	42.0	54.0	35.3

Approved by

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533990-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-13  
Parameter : Noise  
Location : ชุมชนวัง 2 หมู่บ้าน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 24 - 25, 2022  
Measurement by : Sirvit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:30 AM - 03:55 AM	38.4	49.8	35.2
03:55 AM - 04:00 AM	39.4	48.7	35.1
04:00 AM - 04:05 AM	38.0	47.8	34.9
04:05 AM - 04:10 AM	40.0	52.8	34.4
04:10 AM - 04:15 AM	37.1	44.0	34.1
04:15 AM - 04:20 AM	40.8	52.1	35.1
04:20 AM - 04:25 AM	43.5	54.8	36.8
04:25 AM - 04:30 AM	47.0	64.5	35.1
04:30 AM - 04:35 AM	44.3	57.9	37.0
04:35 AM - 04:40 AM	45.0	63.7	36.4
04:40 AM - 04:45 AM	46.3	57.8	36.3
04:45 AM - 04:50 AM	46.1	58.1	37.0
04:50 AM - 04:55 AM	47.0	59.6	38.0
04:55 AM - 05:00 AM	45.8	54.7	38.8
05:00 AM - 05:05 AM	47.5	61.4	38.4
05:05 AM - 05:10 AM	50.0	64.8	38.8
05:10 AM - 05:15 AM	47.0	54.9	37.5
05:15 AM - 05:20 AM	44.2	51.9	37.5
05:20 AM - 05:25 AM	40.5	46.8	35.3
05:25 AM - 05:30 AM	40.2	58.4	35.4
05:30 AM - 05:35 AM	42.8	52.2	36.9
05:35 AM - 05:40 AM	49.7	63.3	41.4
05:40 AM - 05:45 AM	51.8	68.4	39.1
05:45 AM - 05:50 AM	45.8	55.9	37.0
05:50 AM - 05:55 AM	46.3	58.2	39.3
05:55 AM - 06:00 AM	44.7	52.0	39.0
06:00 AM - 07:00 AM	51.4	72.0	46.4
07:00 AM - 08:00 AM	55.8	77.2	47.8
08:00 AM - 09:00 AM	53.8	73.8	47.7
09:00 AM - 10:00 AM	53.8	72.2	46.8
10:00 AM - 11:00 AM	51.8	70.3	45.7
11:00 AM - 12:00 PM	56.7	74.2	51.3

Reference Method : ISO 1996-1

Approved by

*Wibb.*

Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533990-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 1 of 1

Sample No. : 22147448-14  
Parameter : Noise  
Location : ชุมชนวัง 2 หมู่บ้าน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirvit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	52.8	74.1	44.4
01:00 PM - 02:00 PM	54.8	78.2	44.0
02:00 PM - 03:00 PM	57.1	86.8	45.3
03:00 PM - 04:00 PM	54.3	81.9	45.2
04:00 PM - 05:00 PM	58.9	81.9	47.9
05:00 PM - 06:00 PM	53.1	73.0	46.1
06:00 PM - 07:00 PM	51.7	71.3	46.0
07:00 PM - 08:00 PM	50.9	71.4	44.8
08:00 PM - 09:00 PM	50.0	67.4	43.2
09:00 PM - 10:00 PM	48.9	68.9	39.9
10:00 PM - 10:55 PM	43.1	52.4	39.3
10:55 PM - 10:59 PM	49.4	60.1	41.8
10:59 PM - 11:00 PM	49.7	63.7	42.7
11:00 PM - 11:05 PM	42.9	52.8	38.0
11:05 PM - 11:10 PM	44.0	52.0	38.4
11:10 PM - 11:15 PM	40.3	51.7	38.0
11:15 PM - 11:20 PM	43.3	52.8	38.4
11:20 PM - 11:25 PM	44.4	53.8	39.0
11:25 PM - 11:30 PM	44.3	58.2	38.9
11:30 PM - 11:35 PM	43.2	60.5	38.5
11:35 PM - 11:40 PM	43.3	59.7	38.2
11:40 PM - 11:45 PM	43.4	55.5	37.9
11:45 PM - 11:50 PM	40.7	47.0	37.8
11:50 PM - 11:55 PM	45.0	57.7	38.1
11:55 PM - 12:00 AM	50.4	63.3	38.7
12:00 AM - 12:05 AM	40.8	49.2	38.3
12:05 AM - 12:10 AM	41.9	54.1	37.0
12:10 AM - 12:15 AM	45.8	58.1	39.1
12:15 AM - 12:20 AM	42.3	51.3	36.9
12:20 AM - 12:25 AM	42.7	58.1	37.8
12:25 AM - 12:30 AM	45.8	64.8	37.3
12:30 AM - 12:35 AM	42.3	54.8	37.0
12:35 AM - 12:40 AM	49.8	60.1	37.0
12:40 AM - 12:45 AM	42.0	52.0	36.0
12:45 AM - 12:50 AM	42.0	55.0	36.0
12:50 AM - 12:55 AM	42.4	51.9	37.9
12:55 AM - 12:59 AM	47.7	59.0	38.0
12:59 AM - 1:00 AM	45.8	60.5	37.0
1:00 AM - 1:05 AM	49.0	66.2	37.1
1:05 AM - 1:10 AM	42.1	52.1	37.1
1:10 AM - 1:15 AM	40.8	54.8	36.7

The above result is a summary for the final and final version as indicated in the report. No part of the report or any data shall be reproduced or used in any form without written permission from the Laboratory. A Limited Liability Company (Thailand) Sirvit Ruangsom Phuk Daeng Rayong 21140 Thailand.

Approved by

*Wibb.*

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Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533990-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

Page 2 of 1

Sample No. : 22147448-14  
Parameter : Noise  
Location : ชุมชนวัง 2 หมู่บ้าน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirvit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	40.3	51.8	36.4
12:35 AM - 12:40 AM	43.2	51.6	37.2
12:40 AM - 12:45 AM	48.1	56.8	38.5
12:45 AM - 12:50 AM	47.4	55.8	38.4
12:50 AM - 12:55 AM	43.4	51.0	35.2
12:55 AM - 01:00 AM	41.8	51.9	36.1
01:00 AM - 01:05 AM	42.1	56.0	36.3
01:05 AM - 01:10 AM	38.0	51.5	36.1
01:10 AM - 01:15 AM	38.0	47.1	35.8
01:15 AM - 01:20 AM	40.7	61.4	36.1
01:20 AM - 01:25 AM	37.3	47.9	35.6
01:25 AM - 01:30 AM	41.0	54.2	35.9
01:30 AM - 01:35 AM	36.9	43.5	35.8
01:35 AM - 01:40 AM	40.7	56.4	36.4
01:40 AM - 01:45 AM	39.6	48.3	35.6
01:45 AM - 01:50 AM	37.1	44.5	35.9
01:50 AM - 01:55 AM	37.4	39.1	36.6
01:55 AM - 02:00 AM	39.3	48.8	36.6
02:00 AM - 02:05 AM	45.4	61.8	38.1
02:05 AM - 02:10 AM	44.4	58.9	36.9
02:10 AM - 02:15 AM	42.8	53.7	37.6
02:15 AM - 02:20 AM	42.4	50.1	37.0
02:20 AM - 02:25 AM	44.8	58.1	38.1
02:25 AM - 02:30 AM	38.7	47.9	37.6
02:30 AM - 02:35 AM	39.3	48.4	37.7
02:35 AM - 02:40 AM	39.8	52.1	37.4
02:40 AM - 02:45 AM	38.8	47.9	37.7
02:45 AM - 02:50 AM	40.9	48.4	37.2
02:50 AM - 02:55 AM	40.1	48.8	37.0
02:55 AM - 03:00 AM	41.1	52.0	38.4
03:00 AM - 03:05 AM	37.6	48.3	36.9
03:05 AM - 03:10 AM	37.7	44.8	36.4
03:10 AM - 03:15 AM	37.0	44.4	34.3
03:15 AM - 03:20 AM	36.8	46.6	34.8
03:20 AM - 03:25 AM	41.5	55.3	34.8
03:25 AM - 03:30 AM	40.3	50.8	34.3
03:30 AM - 03:35 AM	38.8	50.0	34.4
03:35 AM - 03:40 AM	38.7	50.4	34.7
03:40 AM - 03:45 AM	41.5	56.4	35.2
03:45 AM - 03:50 AM	44.5	55.4	37.3

Approved by

*Wibb.*

Wibwan Borak  
Assistant Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Park Rayong 2 Co., Ltd.  
54/5 Moo 1, Map Yang Phon, Phuk Daeng, Rayong Thailand 21140

Lot ID: 22147448  
Date Received: Dec 27, 2022  
Date Reported: Jan 04, 2023  
Report No.: 2533990-1

P/O : RJN(2)-030/65  
Project Name : Phuk Daeng  
Project Location :

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Sample No. : 22147448-14  
Parameter : Noise  
Location : ชุมชนวัง 2 หมู่บ้าน 15 (N2) (GPS 47P 733675, 1434009) (Shut down)  
Measurement Date : Dec 25 - 26, 2022  
Measurement by : Sirvit Ruangsom  
Sound Level Meter : 00296516

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	40.7	53.1	38.3
03:55 AM - 04:00 AM	40.7	60.3	36.9
04:00 AM - 04:05 AM	37.9	40.8	36.7
04:05 AM - 04:10 AM	39.4	48.6	37.2
04:10 AM - 04:15 AM	43.6	54.4	36.8
04:15 AM - 04:20 AM	48.3	62.5	39.1
04:20 AM - 04:25 AM	46.3	58.0	39.4
04:25 AM - 04:30 AM	45.7	57.2	38.6
04:30 AM - 04:35 AM	40.2	51.7	36.3
04:35 AM - 04:40 AM	44.3	59.1	37.0
04:40 AM - 04:45 AM	44.4	57.3	36.8
04:45 AM - 04:50 AM	45.2	58.6	36.6
04:50 AM - 04:55 AM	45.8	55.6	37.7
04:55 AM - 05:00 AM	46.5	55.7	39.5
05:00 AM - 05:05 AM	52.0	68.4	40.9
05:05 AM - 05:10 AM	53.5	75.0	40.5
05:10 AM - 05:15 AM	48.1	57.3	41.3
05:15 AM - 05:20 AM	47.4	57.2	42.8
05:20 AM - 05:25 AM	48.4	58.9	43.0
05:25 AM - 05:30 AM	36.3	62.1	40.4
05:30 AM - 05:35 AM	45.8	64.6	40.0
05:35 AM - 05:40 AM	45.7	63.1	40.8
05:40 AM - 05:45 AM	44.7	52.8	38.1
05:45 AM - 05:50 AM	47.8	58.3	41.5
05:50 AM - 05:55 AM	45.2	55.7	39.8
05:55 AM - 06:00 AM	46.9	56.3	41.7
06:00 AM - 07:00 AM	52.1	71.2	46.9
07:00 AM - 08:00 AM	59.1	88.0	50.9
08:00 AM - 09:00 AM	54.7	74.1	48.0
09:00 AM - 10:00 AM	53.2	70.4	48.6
10:00 AM - 11:00 AM	51.7	71.4	46.3
11:00 AM - 12:00 PM	52.3	80.4	44.8

Reference Method : ISO 1996-1

Approved by

*Wibb.*

Wibwan Borak  
Assistant Manager

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# ภาคผนวก ง

เอกสารการสอบเทียบเครื่องมือตรวจวิเคราะห์



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รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ผลสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Monthly)
Ambient	Total Suspended Particulate	High Volume	RVG_F50182	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG_F50174	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG_F50251	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG_F50355	-	-	On site Calibration
Ambient	Total Suspended Particulate	Digital Balance	RVG_IN0001	23-Mar-22	23-Mar-23	12
Ambient	Particulate Matter (PM-10)	High Volume	RVG_F50294	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG_F50184	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG_F50192	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG_F50183	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	Digital Balance	RVG_IN0001	23-Mar-22	23-Mar-23	12
Ambient	Nitrogen Dioxide	NO <sub>2</sub> Analyzer	RVG_F50535	1-Jul-22	1-Jul-23	6
Ambient	Nitrogen Dioxide	NO <sub>2</sub> Analyzer	RVG_F50294	1-Jul-22	1-Jul-23	6
Ambient	Nitrogen Dioxide	NO <sub>2</sub> Analyzer	RVG_F50533	1-Jul-22	1-Jul-23	6
Ambient	Nitrogen Dioxide	NO <sub>2</sub> Analyzer	RVG_F50532	1-Jul-22	1-Jul-23	6
Ambient	Sulfur Dioxide	SO <sub>2</sub> Analyzer	RVG_F50534	1-Jul-22	1-Jul-23	6
Ambient	Sulfur Dioxide	SO <sub>2</sub> Analyzer	RVG_F50263	1-Jul-22	1-Jul-23	6
Ambient	Sulfur Dioxide	SO <sub>2</sub> Analyzer	RVG_F50532	1-Jul-22	1-Jul-23	6
Ambient	Sulfur Dioxide	SO <sub>2</sub> Analyzer	RVG_F50536	1-Jul-22	1-Jul-23	6
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RVG_F50089	13-Jun-21	13-Jun-23	12
Noise	Leq 24 hrs	Sound Calibrator	RVG_F50215	31-Aug-22	31-Aug-23	12
Noise	Leq 24 hrs	Sound Level Meter	RVG_F50432	21-Jan-22	21-Jan-23	12
Noise	Leq 24 hrs	Sound Level Meter	RVG_F50431	21-Jan-22	21-Jan-23	12
Noise	Leq 5 min	Sound Calibrator	RVG_F50215	31-Aug-22	31-Aug-23	12
Noise	Leq 5 min	Sound Level Meter	RVG_F50432	21-Jan-22	21-Jan-23	12
Noise	Leq 5 min	Sound Level Meter	RVG_F50431	21-Jan-22	21-Jan-23	12
Noise	Noise Annoyance	Sound Calibrator	RVG_F50215	31-Aug-22	31-Aug-23	12
Noise	Noise Annoyance	Sound Level Meter	RVG_F50432	21-Jan-22	21-Jan-23	12
Noise	Noise Annoyance	Sound Level Meter	RVG_F50431	21-Jan-22	21-Jan-23	12
Noise	Noise Annoyance	Sound Level Meter	RVG_F50433	21-Jan-22	21-Jan-23	12
Noise	Noise Annoyance	Sound Level Meter	RVG_F50434	21-Jan-22	21-Jan-23	12
Noise	Noise Annoyance	Sound Level Meter	RVG_F50435	21-Jan-22	21-Jan-23	12
Rayong Lab	Hydride	SPECTROPHOTOMETER	RVG_L00037	27-Sep-22	27-Mar-24	18
Rayong Lab	Oil at 25 °C	Oil meter	RVG_L00183	17-Mar-22	17-Mar-23	12
Rayong Lab	Mnase	Spectrophotometer	RVG_L00037	27-Sep-22	27-Mar-24	18
Rayong Lab	Ammonia Nitrogen	SPECTROPHOTOMETER	RVG_L00037	27-Sep-22	27-Mar-24	18
Rayong Lab	Dissolved Oxygen	Chamber (Cold Room)	RVG_L00038	22-Feb-22	22-Feb-23	12
Rayong Lab	BOD	DO meter with Sensor	RVG_L00032	16-Feb-22	15-Aug-23	18
Rayong Lab	BOD	Incubator	RVG_L00034	22-Apr-22	21-Oct-23	18
Rayong Lab	Temperature	Oil Meter	RVG_F50240	14-Mar-22	14-Mar-23	12
Rayong Lab	Color	Chamber (Cold Room)	RVG_L00184	22-Feb-22	22-Feb-23	12
Rayong Lab	Tabblety	Chamber (Cold Room)	RVG_L00184	22-Feb-22	22-Feb-23	12
Rayong Lab	Total Dissolved Solids 180°C	Equimetric Balance	RVG_L00007	23-Mar-22	23-Mar-23	12
Rayong Lab	Total Dissolved Solids 180°C	Hot Air Oven	RVG_L00009	20-Oct-22	20-Apr-24	18
Rayong Lab	Chloride	Burette	243007	21-Sep-18	21-Sep-23	60
Rayong Lab	Sulfate	Spectrophotometer	RVG_L00037	27-Sep-22	27-Mar-24	18
Water Lab	Total Hardness	Burette	RVG_L00171	30-Aug-22	1-Mar-24	18
Water Lab	Total Alkalinity	Burette	RVG_L00171	30-Aug-22	1-Mar-24	18
Water Lab	Manganese Chromium	Spectrophotometer	RVG_L00038	16-Sep-22	16-Sep-23	12
Water Lab	Silver	EP-MS	RVG_L00054	30-Sep-21	29-Mar-23	18
Water Lab	Silver	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Silver	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Selenium	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Selenium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Selenium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Selenium	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Selenium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Selenium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18

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Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Monthly)
Water Lab	Manganese	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Manganese	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Manganese	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Iron	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Iron	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Iron	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Aluminum	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Aluminum	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Aluminum	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Lead	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Lead	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Lead	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Nickel	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Nickel	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Nickel	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Nickel	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Asenic	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Asenic	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Asenic	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Cadmium	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Cadmium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Cadmium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Zinc	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Zinc	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Zinc	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Trivalent Chromium	EP-MS	RVG_L00043	30-Sep-21	29-Mar-23	18
Water Lab	Trivalent Chromium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Water Lab	Trivalent Chromium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Water Lab	Mercury	CWES	RVG_L00011	7-Jun-22	6-Jun-23	12
Water Lab	Total Coliform	Autoclave	RVG_L00043	1-Dec-21	1-Jun-23	18
Water Lab	Total Coliform	Incubator	RVG_L00010	21-Jun-22	22-Jul-23	18
Water Lab	Total Coliform	Hot Air Oven	RVG_L00013	21-Nov-22	21-May-24	18
Water Lab	Fecal Coliform	Autoclave	RVG_L00043	1-Dec-21	1-Jun-23	18
Water Lab	Fecal Coliform	Incubator	RVG_L00010	21-Jun-22	22-Jul-23	18
Water Lab	Fecal Coliform	Hot Air Oven	RVG_L00013	21-Nov-22	21-May-24	18
Water Lab	Fecal Coliform	Water Bath	RVG_L00052	21-Feb-22	21-Feb-23	12
Water Lab	Standard Plate Count	Autoclave	RVG_L00043	20-May-22	20-May-23	18
Water Lab	Standard Plate Count	Incubator	RVG_L00010	21-Jun-22	22-Jul-23	18
Water Lab	Standard Plate Count	Hot Air Oven	RVG_L00013	21-Nov-22	21-May-24	18
Water Lab	Escherichia coli	Autoclave	RVG_L00043	20-May-22	20-May-23	18
Water Lab	Escherichia coli	Incubator	RVG_L00010	21-Jun-22	22-Jul-23	18
Water Lab	Escherichia coli	Hot Air Oven	RVG_L00013	21-Nov-22	21-May-24	18
Water Lab	Escherichia coli	Water Bath	RVG_L00052	20-May-22	20-May-23	12
Sludge	Silver	EP-MS	RVG_L00054	13-Sep-21	12-Mar-23	18
Sludge	Silver	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Silver	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Aluminum	EP-MS	RVG_L00054	13-Sep-21	12-Mar-23	18
Sludge	Aluminum	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Aluminum	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Mercury	CWES	RVG_L00011	7-Jun-22	6-Jun-23	12
Sludge	Copper	EP-MS	RVG_L00054	13-Sep-21	12-Mar-23	18
Sludge	Copper	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Copper	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Nickel	EP-MS	RVG_L00054	13-Sep-21	12-Mar-23	18
Sludge	Nickel	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Nickel	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18

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Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Monthly)
Sludge	Asenic	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Sludge	Asenic	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Asenic	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Cadmium	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Sludge	Cadmium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Cadmium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Zinc	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Sludge	Zinc	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Zinc	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Trivalent Chromium	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Sludge	Trivalent Chromium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Sludge	Trivalent Chromium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Sludge	Hexavalent Chromium	Spectrophotometer	RVG_L00038	16-Sep-22	16-Sep-23	12
Soil	Mercury	CWES	RVG_L00011	7-Jun-22	6-Jun-23	12
Soil	Aluminum	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Aluminum	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Aluminum	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Asenic	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Asenic	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Asenic	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Cadmium	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Cadmium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Cadmium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Copper	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Copper	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Copper	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Nickel	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Nickel	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Nickel	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Silver	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Silver	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Silver	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Trivalent Chromium	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Trivalent Chromium	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Trivalent Chromium	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Zinc	EP-MS	RVG_L00037	13-Sep-21	12-Mar-23	18
Soil	Zinc	Hot Block	RVG_L00054	7-Apr-22	7-Oct-23	18
Soil	Zinc	Chamber (Cold Room)	RVG_L00167	30-Jun-22	30-Dec-23	18
Soil	Hexavalent Chromium	Spectrophotometer	RVG_L00038	16-Sep-22	16-Sep-23	12

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High Volume Air Sampler Calibration Worksheet

Project Site: Rojana Industrial Park Rayong 2 Co., Ltd.

Calibrate Location: ท่าเรือพาณิชย์

Calibrate Date: 19-Dec-22

Calibration Sheet No.: C-191222-RYG-FS0182

Calibrator ID: RYG-FS0205

Calibrator Model: TE-5028A

Calibrator S/N: 1165

Barometric Pressure (mm Hg): 755

Temperature (°C): 29

High Volume ID: RYG-FS0182

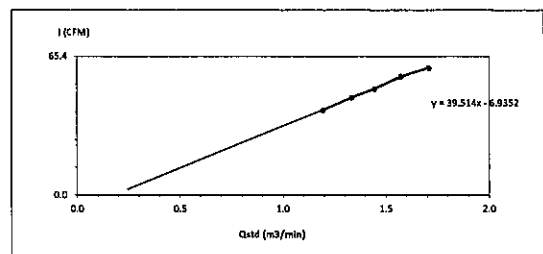
High Volume Model: TE-5170D

High Volume S/N: 5335

Calibrator Slope: 1.50765

Calibrator Intercept: -0.02043

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>avg</sub> (m³/min)	1: Chart (CFM)	Linear Regression
1	3.2	1.1952	40	Slope: 39.5136
2	4.0	1.3338	46	Intercept: -6.9352
3	4.7	1.4441	50	Correlation Coefficient: 0.9981
4	5.6	1.5745	56	
5	6.6	1.7075	60	



Calibrated by: P. Srisit (Mr. Siriwit Ruangsom) Field Scientist(1)

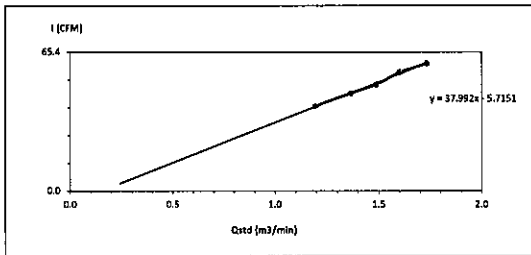
Approved by: 2: P. J. (Mr. Noppong Juntarup) Enviro Field Coordinator Scientist(3)</



### High Volume Air Sampler Calibration Worksheet

Project Site: Rojana Industrial Park Rayong 2 Co., Ltd. Barometric Pressure (mm Hg): 755  
 Calibrate Location: บ้านนาเกลือ Temperature (°C): 29  
 Calibrate Date: 19-Dec-22 High Volume ID: RYG\_FS0174  
 Calibration Sheet No.: C-191222-RYG\_FS0174 High Volume Model: TE-5170D  
 Calibrator ID: RYG\_FS0205 High Volume S/N: 4880  
 Calibrator Model: TE-5028A Calibrator Slope: 1.50765  
 Calibrator S/N: 1166 Calibrator Intercept: -0.02043

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>std</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	3.2	1.1952	40	Slope: 37.9917
2	4.2	1.3663	46	Intercept: -5.7151
3	5.0	1.4889	50	Correlation Coefficient: 0.9968
4	5.8	1.6020	56	
5	6.8	1.7329	60	



Calibrated by: P. Srisit  
 (Mr. Sriwit Ruangsom)  
 Field Scientist (1)

Approved by: [Signature]  
 (Mr. Noppong Juntarapan)  
 Enviro Field Coordinator Scientist (3)

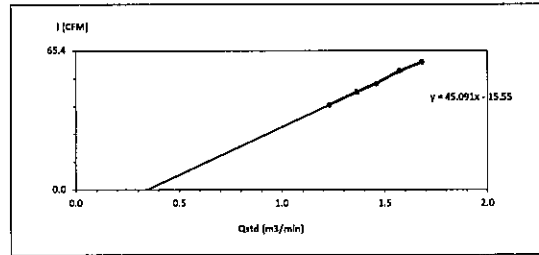
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



### High Volume Air Sampler Calibration Worksheet

Project Site: Rojana Industrial Park Rayong 2 Co., Ltd. Barometric Pressure (mm Hg): 755  
 Calibrate Location: บ้านนาเกลือ Temperature (°C): 29  
 Calibrate Date: 19-Dec-22 High Volume ID: RYG\_FS0281  
 Calibration Sheet No.: C-191222-RYG\_FS0281 High Volume Model: TE-5170D  
 Calibrator ID: RYG\_FS0205 High Volume S/N: 5333  
 Calibrator Model: TE-5028A Calibrator Slope: 1.50765  
 Calibrator S/N: 1166 Calibrator Intercept: -0.02043

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>std</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	3.4	1.2313	40	Slope: 45.0907
2	4.2	1.3663	46	Intercept: -15.5499
3	4.8	1.4592	50	Correlation Coefficient: 0.9991
4	5.6	1.5745	56	
5	6.4	1.6818	60	



Calibrated by: P. Srisit  
 (Mr. Sriwit Ruangsom)  
 Field Scientist (1)

Approved by: [Signature]  
 (Mr. Noppong Juntarapan)  
 Enviro Field Coordinator Scientist (3)

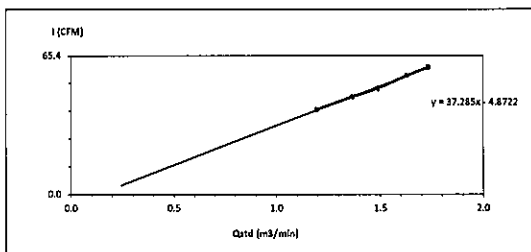
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



### High Volume Air Sampler Calibration Worksheet

Project Site: Rojana Industrial Park Rayong 2 Co., Ltd. Barometric Pressure (mm Hg): 755  
 Calibrate Location: บ้านนาเกลือ Temperature (°C): 29  
 Calibrate Date: 19-Dec-22 High Volume ID: RYG\_FS0395  
 Calibration Sheet No.: C-191222-RYG\_FS0395 High Volume Model: TE-5170D  
 Calibrator ID: RYG\_FS0205 High Volume S/N: 5692  
 Calibrator Model: TE-5028A Calibrator Slope: 1.50765  
 Calibrator S/N: 1166 Calibrator Intercept: -0.02043

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>std</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	3.2	1.1952	40	Slope: 37.2845
2	4.2	1.3663	46	Intercept: -4.8722
3	5.0	1.4889	50	Correlation Coefficient: 0.9988
4	6.0	1.6290	56	
5	6.8	1.7329	60	



Calibrated by: P. Srisit  
 (Mr. Sriwit Ruangsom)  
 Field Scientist (1)

Approved by: [Signature]  
 (Mr. Noppong Juntarapan)  
 Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



**PENTA**  
CALIBRATION

**PENTA CALIBRATION CO., LTD.**  
 66/124 The Connect 23, Village Kanchanaphaek Road  
 Dokmai Prewet Bangkok 10250  
 Tel: +66 (0) 2069-8773  
 www.pentacal.com

## Certificate of Calibration

Represent to Certificate of Calibration: PTC/07/22102

Certificate No.: PTC/07/22102 Page: 1 of 2  
 Equipment: Digital Balance Condition: Normal  
 Manufacturer: Sartorius Serial No: 25409664  
 Model: LA130S-F ID No: RYG\_EN0001  
 Type of Balance: Single interval

Customer: ALS Laboratory Group (Thailand) Co., Ltd.  
616/10 Moo 5 T. Maenamkoo, A. Puakdaeng,  
Rayong 21140, Thailand

Environment Condition: Temperature 23.9 °C ± 0.3 °C  
 Humidity 58.1 %RH ± 4.4 %RH  
 Air density 1.17 kg/m<sup>3</sup>

Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd.  
616/10 Moo 5 T. Maenamkoo, A. Puakdaeng,  
Rayong 21140, Thailand

The Method used: In house method, PTC-WI-07, base on Euramet cg. 18

Traceability: This certificate is traceable to the SI Units through Tha Calibration Service Co. Ltd.  
, NSC-ONSAC Accreditation No.: Calibration 01A9

Date Received: March 23, 2022

Calibration Date: March 23, 2022

Issued Date: March 25, 2022

Calibration By: Mr. Rungroj Metakul



REVIEW BY: [Signature]  
 APPROVED BY: [Signature]  
 NEXT CAL. DATE: 03/09/23

Penta Calibration Co., Ltd.

This certificate is issued in the units of measurement according to the International System of Units (SI). It provides traceability of measurement to international or national standards or other recognized national standard laboratories.

The measurement uncertainty stated is the expanded uncertainty, which is obtained from the standard uncertainty multiplied by the coverage factor (K=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The effect that the results relate only to the item calibrated.

This calibration certificate shall not be reproduced except in full, without written approval from penta calibration co., ltd.

PTC/MS-07-02: 2146-2021



PENTA CALIBRATION CO., LTD.  
66/124 The Connect 33 Village Kanchanaphisek Road  
Dokmai Pratek Bangkok 10250  
Tel: +66 (0) 2009-9773  
www.pentacal.com

Represent to Certificate of Calibration, PTC07/22102

Certificate No.: PTC07/22102

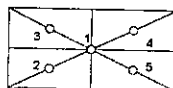
Page: 2 of 2

### Measurement Results:

Without Adjustment:

Function Calibration: Non Adjustment

Eccentric Error: Weight to be 1/3, 1/2 or of Maximum capacity



Eccentricity test 50 (g)				
Position (g)				
1	2	3	4	5
0.0000	0.0000	-0.0001	0.0000	0.0001
Maximum deviation: 0.0001				

Repeatability Test: Weight to be  $1/2 \leq L_1 \leq$  Maximum capacity

Determination of the standard deviation of weighing balance, Readability 0.0001 (g)

Nominal test value (g)	Standard Deviation
100	0.00009

Error of indication: from nominal value, Readability 0.0001 (g)

Nominal Value (g)	Conventional Mass (g)	Indication (g)	Correction of Balance (g)	Uncertainty (g)	k
0	0.00000	0.0000	0.0000	0.00076	2.97
0.01	0.01000	0.0100	0.0000	0.00026	2.65
0.05	0.05000	0.0500	0.0000	0.00026	2.65
0.1	0.10000	0.1000	0.0000	0.00026	2.65
0.5	0.50000	0.4999	0.0001	0.00026	2.65
1	1.00000	0.9999	0.0001	0.00026	2.65
2	2.00000	1.9999	0.0001	0.00026	2.65
5	5.00001	5.0000	0.0000	0.00026	2.65
10	10.00000	10.0001	-0.0001	0.00026	2.65
20	20.00003	20.0001	-0.0001	0.00026	2.52
100	100.00004	100.0001	-0.0001	0.00027	2.18

Note: Weight of adjust (g)

The End of Certificate

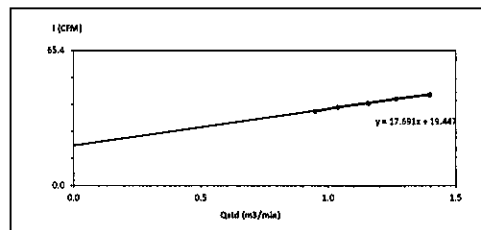
PTC1100/07-27 Feb 2020



### High Volume Air Sampler Calibration Worksheet

Project Site:	Rojana Industrial Park Rayong 2 Co., Ltd.	Barometric Pressure (mm Hg):	755
Calibrate Location:	ฟาร์มสุก	Temperature (°C):	29
Calibrate Date:	19-Dec-22	High Volume ID:	RYG-F50294
CalibrationSheet No:	C-191222-RYG-F50294	High Volume Model:	TE-5009X
Calibrator ID:	RYG-F50205	High Volume S/N:	5501
Calibrator Model:	TE-5028A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02043

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>W</sub> (m <sup>3</sup> /min)	1: Chart (CFM)	Linear Regression
1	2.0	0.9491	36	Slope: 17.6905
2	2.4	1.0378	38	Intercept: 19.4465
3	3.0	1.1579	40	Correlation Coefficient: 0.9981
4	3.6	1.2664	42	
5	4.4	1.3979	44	



Calibrated by: *P. Sirit*  
(Mr. Siriwit Ruangsom)  
Field Scientist (1)

Approved by: *N. Noppong*  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

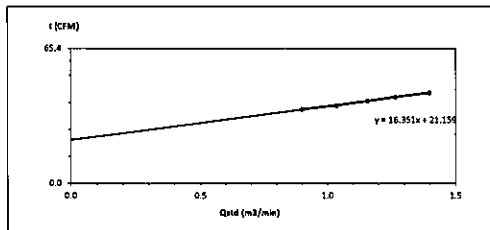
FORM NO.: F 06-074 REVISION NO.: ISSUE DATE: 14/03/16



### High Volume Air Sampler Calibration Worksheet

Project Site:	Rojana Industrial Park Rayong 2 Co., Ltd.	Barometric Pressure (mm Hg):	755
Calibrate Location:	ฟาร์มสุก	Temperature (°C):	29
Calibrate Date:	19-Dec-22	High Volume ID:	RYG-F50184
CalibrationSheet No:	C-191222-RYG-F50184	High Volume Model:	TE-5009X
Calibrator ID:	RYG-F50205	High Volume S/N:	4792
Calibrator Model:	TE-5028A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02043

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>W</sub> (m <sup>3</sup> /min)	1: Chart (CFM)	Linear Regression
1	1.8	0.9015	36	Slope: 16.3510
2	2.4	1.0378	38	Intercept: 21.1587
3	3.0	1.1579	40	Correlation Coefficient: 0.9993
4	3.6	1.2664	42	
5	4.4	1.3979	44	



Calibrated by: *P. Sirit*  
(Mr. Siriwit Ruangsom)  
Field Scientist (1)

Approved by: *N. Noppong*  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

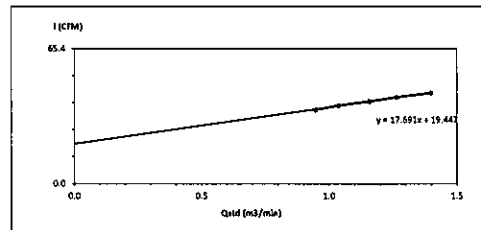
FORM NO.: F 06-074 REVISION NO.: ISSUE DATE: 14/03/16



### High Volume Air Sampler Calibration Worksheet

Project Site:	Rojana Industrial Park Rayong 2 Co., Ltd.	Barometric Pressure (mm Hg):	755
Calibrate Location:	ฟาร์มสุก	Temperature (°C):	29
Calibrate Date:	19-Dec-22	High Volume ID:	RYG-F50192
CalibrationSheet No:	C-191222-RYG-F50192	High Volume Model:	TE-5009X
Calibrator ID:	RYG-F50205	High Volume S/N:	5331
Calibrator Model:	TE-5028A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02043

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>W</sub> (m <sup>3</sup> /min)	1: Chart (CFM)	Linear Regression
1	2.0	0.9491	36	Slope: 17.6905
2	2.4	1.0378	38	Intercept: 19.4465
3	3.0	1.1579	40	Correlation Coefficient: 0.9981
4	3.6	1.2664	42	
5	4.4	1.3979	44	



Calibrated by: *P. Sirit*  
(Mr. Siriwit Ruangsom)  
Field Scientist (1)

Approved by: *N. Noppong*  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-074 REVISION NO.: ISSUE DATE: 14/03/16

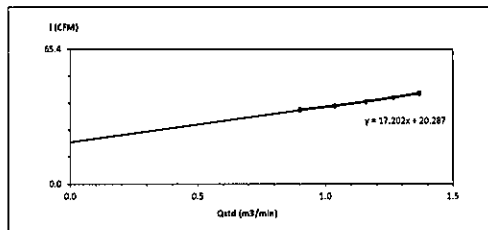




# High Volume Air Sampler Calibration Worksheet

Project Site: Rejana Industrial Park Rayong 2 Co., Ltd. Barometric Pressure (mm Hg): 755  
 Calibrate Location: SeTudong Temperature (°C): 29  
 Calibrate Date: 19-Dec-22 High Volume ID: RYG\_F80183  
 Calibration Sheet No: C-191222-RYG\_F80183 High Volume Model: TF-5809K  
 Calibrator ID: RYG\_F80205 High Volume S/N: 4791  
 Calibrator Model: TE-5028A Calibrator Slope: 1.58765  
 Calibrator S/N: 1166 Calibrator Intercept: -0.02043

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>m</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	1.8	0.9015	36	Slope: 17.2020 Intercept: 20.2870 Correlation Coefficient: 0.9981
2	2.4	1.0378	38	
3	3.8	1.1579	40	
4	3.6	1.2664	42	
5	4.2	1.3663	44	



Calibrated by: P. Srisit  
 (Mr. Sirinut Ruangsom)  
 Field Scientist (1)

Approved by: [Signature]  
 (Mr. Noppang Juntanpan)  
 Enviro Field Coordinator Scientist (3)

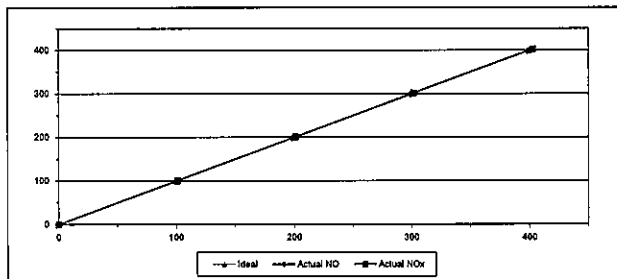
FORM NO.: F 06-076 REVISION NO.: - ISSUE DATE: 14/03/16



# MULTIPOINT CALIBRATION REPORT

Calibration Date: 1-Jul-22 Equipment Name: NOx Analyzer  
 Manufacturer: Teledyne API Model: T200  
 Serial No.: 7238 Equipment ID: RYG\_F80535  
 Calibrator Manufacturer: Teledyne API Model: 700  
 Serial No.: 847  
 Std. Gas Concentration (PPM): 55.88 Cylinder No.: GN0027222  
 Cylinder Pressure (psi): 1800 Certified By: Algas Inc.  
 Certified Date: 9-Feb-22 Expired Date: 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40	101.00	1.00	1.00
2	200.00	198.30	-1.70	-0.85	201.10	1.10	0.55
3	300.00	298.80	-1.20	-0.40	301.50	1.50	0.50
4	400.00	398.20	-1.80	-0.45	402.30	2.30	0.58
AVERAGE (%)				-0.40			0.55



Calibrated By

Approved By

[Signature]  
 (Mr. Jirawut Sakam)  
 Field Environmental Scientist (3)

[Signature]  
 (Mr. Sarayuth Jitranont)  
 Assistant General Manager

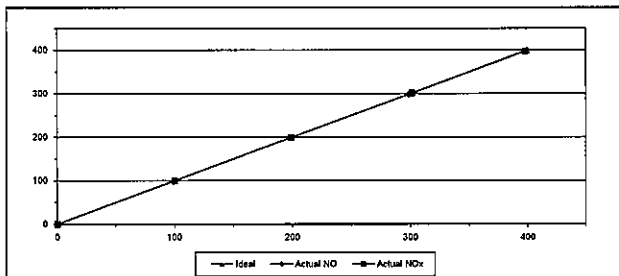
ALS Laboratory Group  
 FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



# MULTIPOINT CALIBRATION REPORT

Calibration Date: 1-Jul-22 Equipment Name: NOx Analyzer  
 Manufacturer: HORIBA Model: APNA-370  
 Serial No.: 8G814J3K Equipment ID: RYG\_F80284  
 Calibrator Manufacturer: Teledyne API Model: 700  
 Serial No.: 847  
 Std. Gas Concentration (PPM): 55.88 Cylinder No.: GN0027222  
 Cylinder Pressure (psi): 1800 Certified By: Algas Inc.  
 Certified Date: 9-Feb-22 Expired Date: 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.05	0.05	0.05	0.10	0.10	0.10
1	100.00	99.20	-0.80	-0.80	100.10	0.10	0.10
2	200.00	198.40	-1.60	-0.80	199.10	-0.90	-0.45
3	300.00	298.60	-1.40	-0.47	301.50	1.50	0.50
4	400.00	398.10	-1.90	-0.47	398.00	-2.00	-0.50
AVERAGE (%)				-0.50			-0.05



Calibrated By

Approved By

[Signature]  
 (Mr. Jirawut Sakam)  
 Field Environmental Scientist (3)

[Signature]  
 (Mr. Sarayuth Jitranont)  
 Assistant General Manager

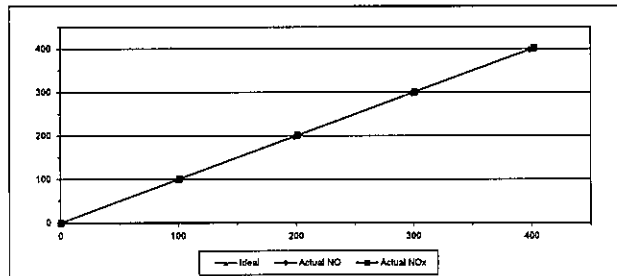
ALS Laboratory Group  
 FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



# MULTIPOINT CALIBRATION REPORT

Calibration Date: 1-Jul-22 Equipment Name: NOx Analyzer  
 Manufacturer: Teledyne API Model: T200  
 Serial No.: 7238 Equipment ID: RYG\_F80533  
 Calibrator Manufacturer: Teledyne API Model: 700  
 Serial No.: 847  
 Std. Gas Concentration (PPM): 55.88 Cylinder No.: GN0027222  
 Cylinder Pressure (psi): 1800 Certified By: Algas Inc.  
 Certified Date: 9-Feb-22 Expired Date: 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.50	-0.50	-0.50	101.10	1.10	1.10
2	200.00	198.70	-1.30	-0.65	201.20	1.20	0.60
3	300.00	298.80	-1.20	-0.40	301.10	1.10	0.37
4	400.00	398.00	-2.00	-0.50	402.00	2.00	0.50
AVERAGE (%)				-0.38			0.53



Calibrated By

Approved By

[Signature]  
 (Mr. Jirawut Sakam)  
 Field Environmental Scientist (3)

[Signature]  
 (Mr. Sarayuth Jitranont)  
 Assistant General Manager

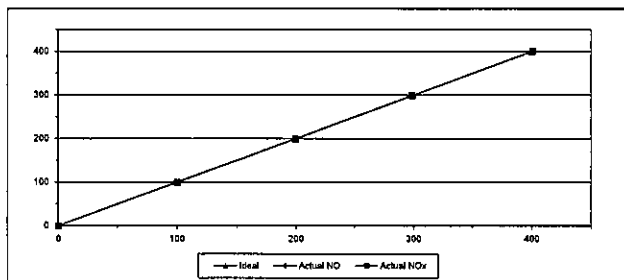
ALS Laboratory Group  
 FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 1-Jul-22 Equipment Name NOx Analyzer  
 Manufacturer HORIBA Model APNA-370  
 Serial No. T2T8YRL1 Equipment ID RYG\_F80457  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 847  
 Std. Gas Concentration (PPM) 55.88 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.30	-1.70	-1.70	100.20	0.20	0.20
2	200.00	198.40	-1.60	-0.80	199.60	-0.40	-0.20
3	300.00	297.10	-2.90	-0.97	298.50	-1.50	-0.50
4	400.00	398.50	-1.40	-0.35	400.70	0.70	0.17
AVERAGE (%)				-0.74			-0.05



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

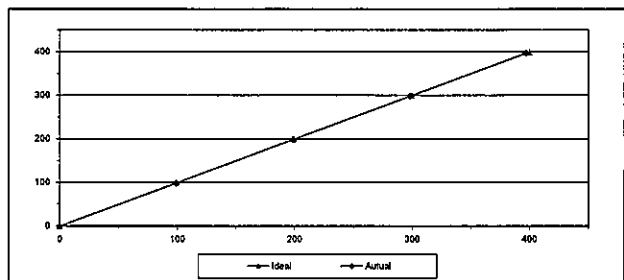
ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 1-Jul-22 Equipment Name SO2 Analyzer  
 Manufacturer Teledyne API Model T100  
 Serial No. 8061 Equipment ID RYG\_F80534  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 847  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.70	-1.30	-0.65
3	300.00	298.30	-1.70	-0.57
4	400.00	397.30	-2.70	-0.67
AVERAGE (%)				-0.60



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

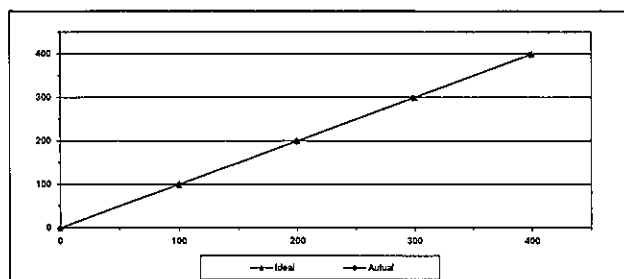
ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 1-Jul-22 Equipment Name SO2 Analyzer  
 Manufacturer HORIBA Model AP2A-370  
 Serial No. YPRXJJ20 Equipment ID RYG\_F80283  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 847  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.80	-0.20	-0.20
2	200.00	199.40	-0.60	-0.30
3	300.00	298.20	-1.80	-0.60
4	400.00	398.00	-2.00	-0.50
AVERAGE (%)				-0.30



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

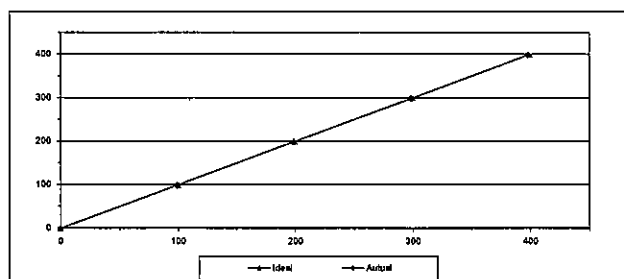
ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 1-Jul-22 Equipment Name SO2 Analyzer  
 Manufacturer Teledyne API Model T100  
 Serial No. 8080 Equipment ID RYG\_F80532  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 847  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.30	-1.70	-0.57
4	400.00	397.60	-2.40	-0.60
AVERAGE (%)				-0.58



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12

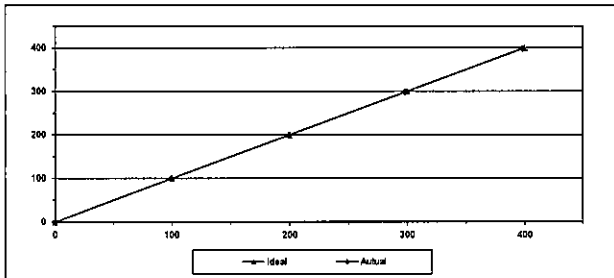




## MULTIPOINT CALIBRATION REPORT

Calibration Date	1-Jul-22	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APBA-370
Serial No.	ROHWYDVW	Equipment ID	RYG_F80458
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Algas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

CALIBRATION RESULTS				
Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.70	-0.30	-0.30
2	200.00	199.50	-0.50	-0.25
3	300.00	298.30	-1.70	-0.57
4	400.00	398.10	-1.90	-0.47
AVERAGE (%)				-0.30



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group  
FORM NO.: F-06-056 REVISION NO.: ISSUE DATE: 02/04/12



63/14-15,67/35-36, Soi Petchkasem 7,7/1, Petchkasem Rd,  
Walthapra, Bangkok, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranteec.com

## CERTIFICATE OF CALIBRATION

Certificate No: WS-04072021  
Page 1 of 2 pages

Measurement Item	Cup anemometer with data logger
Manufacturer	Data logger: Novolyte, Cup anemometer: Novolyte.
Model/Type	Data logger: 200 WS 250L Cup anemometer: WS-02P
Serial Number	Data logger: A4987, Cup anemometer: -
ID No	Data logger: RYG_F80099, Cup anemometer: -
Customer	ALS Laboratory group (Thailand) Co., Ltd. 104 Prachinankas 40, Prachinankas Rd. Khwaeng Sun Luang, Khet Sun Luang, Bangkok 10260 Thailand.
Test Condition	Wind tunnel cross test section area: 900 cm <sup>2</sup> Anemometer frontal area: 107 cm <sup>2</sup> Diameter of mounting post: 6mm Blockage ratio of test object: 0.111 [-]
Test Condition	Air temperature: 24.0 ±0.4 °C Air pressure: 1025.9 ±0.4 hPa Relative air humidity: 63.3 ±3.5 %RH
Calibration Procedure	Calibration was carried out based on: ISO 61400-12-1 C.1.1 2020: Power Performance Measurements of Electricity Producing Wind Turbines. MOASNET Anemometer Calibration Procedure - Version 2 2009
Traceability	The calibration documents the traceability to national standards, which realize the unit of measurements according to the International System of Units (SI) through National Institute of Metrology Thailand (NIMT).
Measurement Date	1 Jul 13, 2021
Issued Date	1 Jul 14, 2021
Calibrated by	<input checked="" type="checkbox"/> Air-Screw Technician <input type="checkbox"/> Air-Screw Washdays
Approved Signature	 Mr. Panya Boonthayuan Technical Support and Calibration Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



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Walthapra, Bangkok, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranteec.com

Continuation of Certificate of Calibration Number

Certificate No: WS-04072021  
Page 2 of 2 Pages

Result of calibration: ☒ Without adjustment ☐ With adjustment

Calibration in the range of 1 ~ 10 m/s at a calibration interval of 1 m/s.  
The result of calibration and associated measurement uncertainties are reported in the table below.

V <sub>ref</sub> Reading m/s	V <sub>ref</sub> Reading m/s	Error m/s	Uncertainty (K)
2.084	1.8	-0.3	2.7
4.112	4.0	-0.1	1.4
6.00	6.0	0.0	1.0
8.00	8.1	0.1	0.70
10.02	10.1	0.1	0.62
11.68	12.0	0.3	0.67
13.58	14.0	0.4	0.49
16.02	16.0	0.0	0.83
18.03	18.4	0.4	0.80
19.99	19.9	0.0	0.63
11.02	11.1	0.1	0.86
9.00	9.1	0.1	0.63
7.00	7.1	0.1	0.77
5.172	5.0	-0.2	0.97
3.007	3.0	0.0	1.7
1.003	0.8	-0.2	5.4

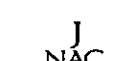
UNC: this lower extension

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

Appendix 1: Instrumentation

NO	Sensor	Manufacturer	Model/Type	Calibration Date	Certificate Report Number	Range
1	Flow rate	TESTO INC.	0335914E	July 15, 2020	MA 003190	0 ~ 35 m/s
2	Pressure (Pressure) Pressure Meter	Zigat	SPN4002	July 16, 2020	MA 003190	0 ~ 32 m/s
3	Air velocity (Anemometer) (m/s)	10-NO	8455 12	July 20, 2020	MA 003190	0 ~ 6 m/s
4	Temperature	Zigat	DSH100	March 20, 2021	DL 02704	30 ~ 70 °C
5	Relative humidity	Zigat	DSH100	March 20, 2021	DL 02704	0 ~ 100 %RH
6	Anemometer Pressure	Zigat	DSH100	March 20, 2021	DL 02704	0 ~ 1100 m/s
7	Wind Tunnel	TESTO	MP3000			0 ~ 30 m/s

\*\*\*End of certificate of calibration\*\*\*



63/14-15,67/35-36, Soi Petchkasem 7,7/1, Petchkasem Rd,  
Walthapra, Bangkok, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranteec.com

## CERTIFICATE OF CALIBRATION

Certificate No: WS-04072021  
Page 1 of 2 pages

Measurement Item	Wind direction sensor with data logger
Manufacturer	Data logger: Novolyte, Wind direction sensor: Novolyte.
Model/Type	Data logger: 200 WS 250L Wind direction sensor: WS-03P
Serial Number	Data logger: A4987, Wind direction sensor: -
ID No	Data logger: RYG_F80099, Wind direction sensor: -
Customer	ALS Laboratory group (Thailand) Co., Ltd. 104 Prachinankas 40, Prachinankas Rd. Khwaeng Sun Luang, Khet Sun Luang, Bangkok 10260 Thailand.
Environmental Condition	The measurement was carried out in an ambient temperature of 23(±3)°C and relative humidity of 14(±10)%.
Measurement Method	The wind direction sensor calibration according to comparison method with reference angle measurement method. The method and the user is used for axis control. The measurement were taken at 45° intervals in clockwise and counter-clockwise directions.
Note	Note: The UNC was warned up for 1 hour prior to the calibration being performed.
Traceability	The measurement results are traceable to the international system of units (SI) through Certificate No. 00562-07-0045, Certificate No. WS063/0046.
Measurement Date	1 Jul 14, 2021
Issued Date	1 Jul 14, 2021
Performed by	<input checked="" type="checkbox"/> Mr. Sarawat Theasud <input type="checkbox"/> Mrs. Orathai Wathanyaya
Approved Signature	 Mr. Panya Boonthayuan Technical Support and Calibration Manager



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Continuation of Certificate of Calibration Number

Certificate No: WD-04032021  
Page 2 of 2 pages

Result of calibration: ☐ Without adjustment ☒ With adjustment

Calibration in the range of 0 - 360 ° at a calibration interval of 45°.

The results of calibration and associated measurement uncertainties are reported in table below.

NO	Turning Direction	Nominal Angle (°)	Standard Reading (°)	UUC* Reading (°)	Error (°)	Uncertainty (°)
1	Clockwise	0/360	0	0	0	3.0
2		45	45	42	-3	3.0
3		90	90	88	-2	3.0
4		135	135	133	-2	3.0
5		180	180	181	1	3.0
6		225	225	228	3	3.0
7		270	270	273	3	3.0
8		315	315	318	3	3.0
9	Counter Clockwise	0/360	0	0	0	3.0
10		45	45	47	+2	3.0
11		90	90	88	-2	3.0
12		135	135	133	-2	3.0
13		180	180	181	1	3.0
14		225	225	228	3	3.0
15		270	270	273	3	3.0
16		315	315	318	3	3.0

UUC\*: Unit Under Calibration The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor  $k=2$  providing a level of confidence of approximately 95%.

\*\*\*End of Certificate of Calibration\*\*\*



## Calibration Certificate

Equipment : SOUND CALIBRATOR  
Manufacturer : RION  
Model : NC-74  
Serial No.: 34178123  
ID No.: RYG\_FS0215

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PIATTHANAKAN 40, PIATTHANAKAN ROAD,  
KHIWAENG PIATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 22 AUGUST 2022  
Calibration Date : 31 AUGUST 2022  
Date of Issue : 02 SEPTEMBER 2022

Calibrated by : Nathakorn Pisutpaisan

Approved by : *T. Petch*  
( Thanakul Petchurai )

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

QF-TS12-04-04-020664

### Continuation of Calibration Certificate

Cert. No.: ACC22023  
Job No.: VC65AC0077  
Pages: 2 of 3

Calibration Procedure : CP-AC-03

#### Calibration Method :

This equipment was calibrated by based on IEC-60942:2003 Standard.

The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

#### Condition of this result of calibration :

##### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Exp. Date
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL-BP_04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL-BP_03/0265	09-Feb-23
Digital Multimeter	33461A	MY60024273	EEL-BP_05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62106114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977990	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KA1	34560495	AA-3005-22	22-Feb-23
Audio Analyzer	AVR-3360A	V744B5069	EF-0010-22	07-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

### Continuation of Calibration Certificate

Cert. No.: ACC22023  
Job No.: VC65AC0077  
Pages: 3 of 3

#### Result of calibration :

##### 1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Tolerance limit (dB)
94	94.04	0.04	0.14	0.40

##### 2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Tolerance limit (%)
1000	1001.5	0.1	0.1	1.0

##### 3. Total distortion

Measured value (%)	Uncertainty (%)	Tolerance limit (%)
1.70	0.10	3.0

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

End of Calibration Certificate

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

451-451/1 Sirthorn Rd, Bangbunru, Bangplud Bangkok 10700 THAILAND.  
Tel:0-2435-8800 Fax:0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL22055  
Pages : 1 of 8

## Calibration Certificate

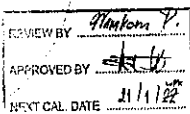
Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24  
Serial No. : 00296515 / 179119 / 87526  
ID No. : RYG\_FS0432

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTIANAKAN 40, PHATTIANAKAN ROAD,  
KHUANG PHATTIANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 14 JANUARY 2022  
Calibration Date : 21-24 JANUARY 2022  
Date of Issue : 25 JANUARY 2022



Calibrated by : Natthakorn Pisupaisan

Approved by :

T. Petchurai  
( Thanakul Petchurai )

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

QI-TS12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

### Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

### Condition of this result of calibration :

#### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_05-0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL-BP_03-0264	08-Feb-22
Digital Multimeter	34461A	MY60024273	1-15180725251-1	15-Sep-22
Programmable Attenuator	MA7-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34566495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QI-TS12-04-04-020664

T. Petchurai

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 3 of 8

### Summary of Measurement Result :

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

QI-TS12-04-04-020664

T. Petchurai

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 4 of 8

### Result of calibration :

#### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

#### 2. Self-generated noise

##### 2.1 Normal test

Measured Value (dB)
14.6

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

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.7
Flat	23.1

#### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	-0.2	-0.2	-0.2	±5.0

QI-TS12-04-04-020664

T. Petchurai

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

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

## 5.2 Time weighting at 1 kHz

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

## 6. Long-term stability

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

QI-TS12-04-04-020664

P.T.A.

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 6 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	63.9	-0.1	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	38.9	-0.1	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.0	0.0	±1.1
26.0	26.0	0.0	±1.1
25.0	25.1	0.1	±1.1

QI-TS12-04-04-020664

P.T.A.

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 7 of 8

## 8. Level linearity including the level range control

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

## 9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.3	-0.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QI-TS12-04-04-020664

P.T.A.

## Continuation of Calibration Certificate

Cert. No. : ACL22055  
Job No. : VC65AC0043  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.6	0.0	±1.5

## 12. High level stability

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

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

End of Calibration Certificate

QI-TS12-04-04-020664

P.T.A.

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

451-451/1 Sirinthorn Rd., Bangbunru, Bangplud Bangkok 10700 THAILAND.  
Tel:0-2435-8800 Fax:0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL22058  
Pages : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24  
Serial No.: 00296518 / 179118 / 87525  
ID No.: RYG\_FS0431

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHUWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 14 JANUARY 2022  
Calibration Date : 21-24 JANUARY 2022  
Date of Issue : 25 JANUARY 2022

Calibrated by : Nathakorn Pisutpaisan

Approved by :

( Thanakul Petchurai )

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

QI-1S12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

### Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

### Condition of this result of calibration :

#### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	ET-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-0P, 05-0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL-0P, 03-0264	08-Feb-22
Digital Multimeter	33461A	MY60024273	1-15180725251-1	15-Sep-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QI-1S12-04-04-020664

T. Petchurai

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 3 of 8

### Summary of Measurement Result :

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

QI-1S12-04-04-020664

T. Petchurai

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 4 of 8

### Result of calibration :

#### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

#### 2. Self-generated noise

##### 2.1 Normal test

Measured Value (dB)
14.6

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

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.6
Flat	23.2

#### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.8	0.9	0.9	± 5.0

QI-1S12-04-04-020664

T. Petchurai

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.0	-0.1	±1.5
250	-0.1	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

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

## 5.2 Time weighting at 1 kHz

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

## 6. Long-term stability

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

QI-1S12-04-04-020664

T. P. A.

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 6 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.1	0.1	±1.1
135.0	135.1	0.1	±1.1
134.0	134.1	0.1	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.1	0.1	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.1	0.1	±1.1
26.0	26.1	0.1	±1.1
25.0	25.1	0.1	±1.1

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T. P. A.

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 7 of 8

## 8. Level linearity including the level range control

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

## 9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	116.9	-0.1	1.0 ; -2.5
	200	800	124.0	124.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
SEL	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.0	0.0	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	135.8	-0.6	±3.0

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

QI-1S12-04-04-020664

T. P. A.

## Continuation of Calibration Certificate

Cert. No. : ACL22058  
Job No. : VC65AC0043  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.7	0.0	±1.5

## 12. High level stability

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

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

End of Calibration Certificate

QI-1S12-04-04-020664

T. P. A.

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

451-451/1 Sitrinthorn Rd.,Bangbunru, Bangplud Bangkok 10700 THAILAND.  
Tel:0-2435-8800 Fax:0-2431-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL22056  
Pages : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42/ Microphone UC-52 / Pre-amplifier NH-24  
Serial No.: 00296516 / 180412 / 88182  
ID No.: RYG\_FS0433

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location : -  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 14 JANUARY 2022  
Calibration Date : 21-24 JANUARY 2022  
Date of Issue : 25 JANUARY 2022

REVIEW BY : *[Signature]*  
APPROVED BY : *[Signature]*  
NEXT CAL DATE : 21/1/23

Calibrated by : Nathakorn Pisutpaisan

Approved by :

*[Signature]*  
( Thanakul Peichurai )

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

QF-TS12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

### Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

### Condition of this result of calibration :

#### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_05/0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL-BP_03/0264	08-Feb-22
Digital Multimeter	34461A	MY60024273	1-15180725251-1	15-Sep-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

*[Signature]*

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 3 of 8

### Summary of Measurement Result :

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

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*[Signature]*

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 4 of 8

### Result of Calibration :

#### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

#### 2. Self-generated noise

##### 2.1 Normal test

Measured Value (dB)
14.8

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

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.7
Flat	23.4

#### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.5
1000	-0.1	-0.1	-0.1	± 1.0
8000	0.7	0.7	0.7	± 5.0

QF-TS12-04-04-020664

*[Signature]*

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

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

## 5.2 Time weighting at 1 kHz

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

## 6. Long-term stability

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

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## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 6 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	49.0	0.0	±1.1
44.0	43.9	-0.1	±1.1
39.0	38.9	-0.1	±1.1
34.0	33.9	-0.1	±1.1
30.0	29.9	-0.1	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	27.0	0.0	±1.1
26.0	25.9	-0.1	±1.1
25.0	25.0	0.0	±1.1

QT-1512-04-04-020664

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 7 of 8

## 8. Level linearity including the level range control

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

## 9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	124.0	124.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
SEL	2	8	108.0	108.0	0.0	-1.0 ; -2.5
	200	800	128.0	128.0	0.0	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.1	-0.3	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QT-1512-04-04-020664

## Continuation of Calibration Certificate

Cert. No. : ACL22056  
Job No. : VC65AC0043  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.5	-0.2	±1.5

## 12. High level stability

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

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

End of Calibration Certificate

QT-1512-04-04-020664



# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

451-451/1 Sirdhorn Rd.,Bangbunru, Bangplud Bangkok 10700 THAILAND.  
Tel:0-2435-8800 Fax:0-2433-1579 e-mail:cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL22057  
Pages : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24  
Serial No. : 00296517 / 179120 / 87527  
ID No. : RYG\_PS0434

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 14 JANUARY 2022  
Calibration Date : 21-24 JANUARY 2022  
Date of Issue : 25 JANUARY 2022

Calibrated by : Natthakorn Pisutpaisan

Approved by :

*T. Petchuraj*  
( Thanakul Petchuraj )

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

QF-TS12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

### Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

### Condition of this result of calibration :

#### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_050264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL-BP_030264	08-Feb-22
Digital Multimeter	34461A	MY60024273	1-15180725251-1	15-Sep-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KAI	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 3 of 8

### Summary of Measurement Result:

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

QF-TS12-04-04-020664

# SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 4 of 8

### Result of calibration :

#### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

#### 2. Self-generated noise

##### 2.1 Normal test

Measured Value (dB)
15.4

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

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.7
Flat	23.4

#### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.6	0.7	0.7	± 5.0

QF-TS12-04-04-020664

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.1	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

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

## 5.2 Time weighting at 1 kHz

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

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.1	0.1	±0.3

QI-1512-04-04-020664

T. Rth.

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 6 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.1	0.1	±1.1
26.0	26.1	0.1	±1.1
25.0	25.1	0.1	±1.1

QI-1512-04-04-020664

T. Rth.

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 7 of 8

## 8. Level linearity including the level range control

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

## 9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.1	0.1	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.3	-0.1	±3.0

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

QI-1512-04-04-020664

T. Rth.

## Continuation of Calibration Certificate

Cert. No. : ACL22057  
Job No. : VC65AC0043  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.6	0.0	±1.5

## 12. High level stability

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

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

End of Calibration Certificate

QI-1512-04-04-020664

T. Rth.



## Certificate of Calibration

Certificate No.: C08220484 Page 2 of 3

**Equipment:** SPECTROPHOTOMETER  
**Model:** DR8000  
**Serial No. (or ID):** 1627845 (RYG\_EN0037)  
**Manufacturer:** HACH  
**Condition:** In Condition

**Customer:** ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
 616/10 Moo 5 T. Maenam Khu,  
 A. Phukdaeng, Rayong 21140, Thailand.

**Environment Condition:** Temperature 23.1 °C ±  
 Humidity 65.4 %RH ±

**Calibration Piece:** ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch) (Wet Chemistry)  
 616/10 Moo 5 T. Maenam Khu,  
 A. Phukdaeng, Rayong 21140, Thailand.

**Calibration By:** Mr. Chutaphon Fothong  
**Calibration Date:** 27 September 2022  
**The Method used:** In house method, CAL-WI-24, base on ASTM E 275-08 and ASTM E 387-04  
**Traceability:** This certificate is traceable to the CRM maintained by National Institute of Standards and Technology (NIST) through Sigma Scientific Limited.

The standard for Wavelength Certificate No. 91418 and 91435  
 The standard for Photometric Certificate No. 91441 and 101088  
 The standard for Stray light Certificate No. 101041 and 101040  
 The standard for Spectral resolution Certificate No. 101037

REVIEW BY: *[Signature]*  
 APPROVED BY: *[Signature]*  
 NEXT CAL DATE: 27/3/24  
 3.2 %RH

*[Signature]*  
 (Mr. Chutaphon Fothong)  
 Person in charge

*[Signature]*  
 (Mr. Thalekiet Pongnam)  
 Authorized signatory

This certificate is issued under the authority of measurement according to the International System of Units (SI). It provides traceability of measurement to International or national standard or other recognized national standard laboratories.  
 The measurement uncertainty stated in the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM).  
 These results may be affected by deviations from specified conditions. The results relate only to the items tested, calibrated or sampled. The report shall not be reproduced except in full without approval of DKSH Technology Limited.  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
 Phone: +66 2268 7000 Email: info@dksh.com Website: www.dksh.com/thailand

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CAL-FM-C08-13: 20 Jul 2022

### Calibration Results: Without Adjustment

Wavelength Accuracy (nm), The spectral bandwidth of 840 at 2 nm and UUC at 2 nm				
Standard Wavelength	Unit Under Calibration	Correction	Uncertainty	
418.61	418.4	0.21	0.14	
636.66	636.7	-0.04	0.14	
637.86	638.3	-0.32	0.14	
748.48	748.8	-0.32	0.14	
807.03	807.4	-0.37	0.13	

Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
420 nm	0.0000	0.000	0.0000	0.0045
	0.5806	0.563	-0.0026	0.0045
	0.7334	0.737	-0.0036	0.0045
440 nm	1.0634	1.067	-0.0036	0.0045
	0.0000	0.000	0.0000	0.0045
	0.5503	0.553	-0.0027	0.0045
456 nm	0.7178	0.720	-0.0021	0.0045
	1.0312	1.034	-0.0028	0.0045
	0.0000	0.000	0.0000	0.0045
546.1 nm	0.5024	0.506	-0.0036	0.0045
	0.8683	0.872	-0.0027	0.0045
	0.9804	0.984	-0.0036	0.0045
590 nm	0.0000	0.000	0.0000	0.0045
	0.6168	0.619	-0.0022	0.0045
	0.8903	0.891	-0.0007	0.0045
635 nm	0.9904	0.992	-0.0016	0.0045
	0.0000	0.000	0.0000	0.0045
	0.6525	0.654	-0.0015	0.0045
655 nm	0.7175	0.718	-0.0005	0.0045
	1.0301	1.031	-0.0008	0.0045
	0.0000	0.000	0.0000	0.0045
655 nm	0.5387	0.538	-0.0013	0.0045
	0.6547	0.655	-0.0003	0.0045
655 nm	0.9823	0.983	-0.0007	0.0045

Unit Under Calibration: This  
 DKSH Technology Limited  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
 Phone: +66 2268 7000 Email: info@dksh.com Website: www.dksh.com/thailand

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CAL-FM-C08-13: 20 Jul 2022

Certificate No.: C08220484 Page 3 of 3

### Calibration Results: Without Adjustment

Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
235 nm	0.0000	0.009	0.0000	0.0080
	0.7423	0.744	-0.0017	0.0083
257 nm	0.0000	0.000	0.0000	0.0080
	0.8609	0.861	-0.0001	0.0084
313 nm	0.0000	0.000	0.0000	0.0080
	0.2885	0.292	-0.0025	0.0080
350 nm	0.0000	0.000	0.0000	0.0080
	0.6381	0.638	0.0001	0.0080

Stray light *			
Standard: cut-off	UUC: Wavelength (nm)	UUC: Transmission (%)	Absorbance (A)
280.67 ± 0.11 nm	280.7	2.1	1.678
391.94 ± 0.11 nm	391.9	1.7	1.770

Spectral Resolution *				
Nominal Concentration 0.02 % w/v	Peak	Trough	Ratio	SRW
Standard Wavelength (nm)	268.60	268.63	1.39	2.00
UUC: Wavelength (nm)	268.2	268.1		
Std Absorbance (A)	0.4810	0.3178		
Absorbance (A)	0.373	0.266		

\* Calibration Marked "Not TISI Accredited" in this Certificate have been included for completeness.

The End of Certificate

Unit Under Calibration: This  
 DKSH Technology Limited  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
 2555 Sukhumvit Road, Bangkok, Thailand 10260  
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CAL-FM-C08-13: 20 Jul 2022

### ใบตรวจสอบสภาพเครื่องวัดสิ่งแวดล้อม

ชนิดเครื่องมือ: SPECTROPHOTOMETER					รุ่น: DR8000	หมายเลขเครื่อง: 1627845
ตรวจสอบ (ปี)		รายการตรวจเช็ค		ตรวจสอบ (ปี)		หมายเหตุ
27 Sep 2022				27 Sep 2022		
ปกติ	ไม่ปกติ			ปกติ	ไม่ปกติ	
General						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1. ความสมบูรณ์เครื่อง		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2. ความสะอาด ( เช็ดตัวรับ, ภายใน-ภายนอกเครื่อง)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3. สวิตช์ ปิด - เปิด เครื่อง (On-Off Switch)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4. ปุ่มกด (Keypad)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5. หน้าจอ (Display, Screen Contrast)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Spectrophotometer						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6. แบตเตอรี่สำรอง (Battery Backup) >= 2.6 VDC		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	7. ควบคุมความยาวคลื่น (Wavelength Control)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8. ความยาวคลื่น (Wavelength Check)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	856.1 nm 856.1 nm
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9. แหล่งกำเนิดแสง (UV < 3,000 hour)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10. แหล่งกำเนิดแสง (Visible < 5,000 hour)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11. ขั้วหลอดหลอดแสง (Carousel Module)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
pH Meter and Conductivity Meter						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	12. ขั้วไฟฟ้า ( Electrode and Connection Cable )		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	13. ระดับสารละลายใน Electrode (Level KCl)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	14. ฝาปิดป้องกัน Electrode (Dust Protection Hood)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	15. ขาตั้งขั้วไฟฟ้า (Stand)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Turbidimeter						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16. การควบคุมโฟลว์ (No Sample)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	17. ขั้วไฟฟ้าหลอดแสง ( >= 2.6 ไม่น้อย 3.0)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Automatic Diluter						
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	18. สลัก Piston Burette		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	19. Function Rinsing and Dosing		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	20. ขั้วหลอดแสงหลอดไฟฟ้าภายใน		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

ผลการตรวจสอบ:

Mr. Chutaphon Fothong  
 Service Engineer

Unit Under Calibration: This  
 DKSH Technology Limited  
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CAL-FM-R31-03: 20 Jul 2022



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-27 FAX. 0-2719-9484



Cert.No.: 22CH405  
Page.: 1 of 3

## Certificate of Calibration

Equipment : pH Meter  
Manufacturer : Mettler Toledo  
Model : Seven Compact S220  
Serial No. : C104059460  
ID No. : RYG\_EN0183  
Condition As-Received: Used Item  
Received Date : 16 March 2022  
Calibration Date : 17 March 2022  
Reference : 2203-0811DSC-4  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
Rayong Branch  
616/10 Moo 5 T.Moenam Khu,  
A.Pluakdaeng, Rayong 21140, Thailand

Ambient Temperature : (25 ± 2.5) °C  
Relative Humidity : (50 ± 15) %  
Calibration Procedure : In-house method :  
- CP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)  
- CP-CH8 by comparison with standard thermometer

REVIEW BY *N. Bannai*  
APPROVED BY *D. K.*  
NEXT CAL. DATE *17/3/23*

Calibrated by : Warakorn Lemgagtrakul

Approved by : *M. M.*  
Approved Signatory

(/ ) Malee Butkruea  
( ) Sathip Meangmai  
( ) Warakorn Lemgagtrakul

Issue Date : 22 March 2022

The Uncertainties are for a confidence probability of approximately 95%

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A 0837307



Cert.No.: 22CH405  
Page.: 2 of 3

### Condition of this calibration result

#### 1. Reference Standard Instrument : -

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	54030048	130RC116	21E2682	25 Aug 2022
2) Ref. Standard Thermometer	4982054	110RC044	2111201	26 Oct 2022

This certification is traceable to the International System of Unit maintained at:-  
- Traceable to National Institute of Metrology (Thailand), NIMT

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

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	788995	01 Jan 2024
pH 6.982	CPA chem	781017	02 Aug 2022
pH 10.015	CPA chem	766824	04 Sep 2022

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

### Calibration Results

#### Function : mV Measurement

#### Performing standard curve by Fluke at pH (4.7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement (mV)	Coverage factor k
	pH	mV	mV	pH		
pH Meter S/N.: C104059460	4.000	177.48	177.4	4.000	0.058	2.00
	7.000	0.00	-0.1	7.000	0.058	2.00
	10.000	-177.48	-177.5	10.000	0.058	2.00

*M. M.*

a 1100955



Cert.No.: 22CH405  
Page.: 3 of 3

### Calibration Results

#### Function : pH Measurement

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

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH measurement (±)	Coverage factor k
pH Electrode S/N.: 1453404	4.008	4.010	177.7	0.0046	2.00
	6.982	6.988	3.6	0.0084	2.00
	10.015	10.010	-172.9	0.0073	2.05

#### Function : Temperature Measurement

#### (\* ) Without adjustment

This equipment was connected with Temperature Probe:

- Model : InLab Expert Pro-ISM  
- Serial No. : 1453404  
- Dimension of probe:  
- Length : 120 mm.  
- Diameter : 12 mm.  
- Immersion Depth : 100 mm.

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement (± °C)	Coverage factor k
25.0	25.002	24.9	-0.102	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 %.

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*M. M.*

a 1100954



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-24 FAX. 0-2719-9484



## Certificate of Calibration

Certificate No. : 22E088  
Page : 1 of 2

Equipment : pH Meter  
Manufacturer : Mettler Toledo  
Model : SevenCompact S220  
Serial No. : C104059460  
ID No. : RYG\_EN0183  
Condition As-Received: Used Item  
Received Date : 16 March 2022  
Calibration Date : 21 March 2022  
Reference : 2203-0811DSC  
Ambient Temperature : ( 23 ± 2 ) °C  
Relative Humidity : ( 50 ± 10 ) %

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

616/10 Moo 5 T.Moenam Khu, A.Pluakdaeng, Rayong  
21140, Thailand

Procedure used: Calibration were conducted using in-house calibration Procedure CP-E17 According to direct measurement method with Multi-Product Calibrator.

### Condition of this result of calibration

#### 1. Reference standards Instruments :

Instrument	Model	Serial No.	Certificate No.	Due Date
1) Multi-Product Calibrator	5500A	9440007	21E1444	07 May 2022

#### 2. This result of calibration was made on requested at the point specified by customer.

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

#### 4. This Certification is traceable to the International System of Unit maintained at:- -National Institute of Metrology Thailand (NIMT)

REVIEW BY *N. Bannai*  
APPROVED BY *D. K.*  
NEXT CAL. DATE *21/3/23*

Calibrated by : Pongsagorn Boonyaporn  
Issue Date : 22 March 2022

Approved Signatory : *G. V.*  
(/ ) Phulinee Prabpaijai  
( ) Nuntawat Khanchai  
( ) Ponthippa Tanoyakul

B 0284414



Cert. No.: 22E986  
Page: 2 of 2

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

Function: DC voltage measurement	Range:	2000	mV
Standard Value	UUC Reading	Error	Uncertainty
( mV )	( mV )	( mV )	( ± μV )
-200.0000	-200.0	0.0	72
-150.0000	-150.0	0.0	69
-100.0000	-100.0	0.0	65
-50.0000	-50.0	0.0	62
0.0000	0.0	0.0	58
50.0000	50.0	0.0	62
100.0000	100.0	0.0	65
150.0000	150.0	0.0	69
200.0000	200.0	0.0	72

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

\*UUC= Unit Under Calibration.

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a 1101070



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, 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.co.th



Certificate No. T220384101 "Substitute for Calibration Certificate Number T220384" Page 1 of 4

## Certificate of Calibration

Equipment : Chamber ( Cold Room )

Manufacturer : MODULAR

Model : IREVC0HCOO

Serial No. : C00351459

Customer Code : RYG\_EN0184

ID No. : T1939AS

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

616/10 Moo 5 T.Maenam Khu,

A.Plukdaeng, Rayong 21140

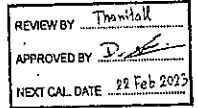
Customer Location : Laboratory

Date of Receipt : 18 February 2022

Calibrated By : Boonchai Suriyawong ( Site Calibration Manager )

Approved By : Sujjar Naknakred (Site Calibration Manager)

Date of Issue : 18 MAR 2022



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

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

FM-L14 117 01-02-04



## Metrological Center

SCI ECO Services Company Limited

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



Certificate No. T220384101

Page 2 of 4

## Calibration Report

Equipment : Chamber ( Cold Room )  
Date of Calibration : 22 February 2022  
Environment : Temperature : 23.2-24.3 °C  
Line Voltage : 221.8-227.2 V  
Relative Humidity : 55 - 65 %RH

### Condition of this results of calibration :

- 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 .
- Reference Standard Instrument :
 

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN141-TN150	T210743	21 April 2022
TC	TYPE T	TN151-TN160	T210743	21 April 2022
DATA LOGGER	34970A	T150	T210743	21 April 2022
- This certificate is traceable to : National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244 )
- Condition of calibrated item : good  
Equipment Description :  
Time Constant : 40 Minute At 3 °C  
Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max  
☒ Close  
☒ Not Available
- Adjustment : ( X ) without adjustment ( ) after adjustment

Approved By: Sujjar Naknakred

FM-L15 117 15-05-03



## Metrological Center

SCI ECO Services Company Limited

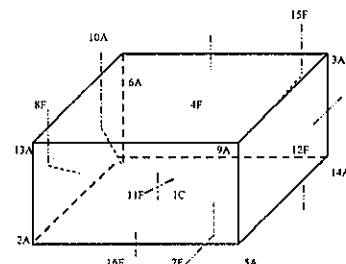
33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.



Certificate No. T220384101

Page 3 of 4

## Calibration Report



1C = TN141	12F = TN152
2A = TN142	13A = TN153
3A = TN143	14A = TN154
4F = TN144	15F = TN155
5A = TN145	16E = TN156
6A = TN146	
7F = TN147	
8F = TN148	
9A = TN149	
10A = TN150	
11F = TN151	

Approved By: Sujjar Naknakred

FM-L15 117 15-05-03



Certificate No. T220384101

Page 4 of 4

## Calibration Report

### Measurement Results

Calibration Point	Average Standard Reading at each position (°C)									
	TN141	TN142	TN143	TN144	TN145	TN146	TN147	TN148	TN149	TN150
3.0	2.88	2.96	2.98	2.97	3.16	3.29	2.95	3.14	3.10	3.45
	TN151	TN152	TN153	TN154	TN155	TN156				
	3.04	3.19	3.03	3.34	3.21	3.11				

Chamber ( Cold Room )			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (± °C)	Uniformity (°C)	Uncertainty (± °C)	Coverage Factor k
	Min , Max	Average					
3.0	2.7 , 4.1	3.5	3.11	1.30	1.30	2.00	2.05

\* The Assessed 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 %.

Approved By: \_\_\_\_\_

1 M-L15 117 15-05-83



Cert.No.: 22TW34  
Page.: 1 of 2

## Certificate of Testing

Equipment : DO Meter  
Manufacturer : YSI  
Model : 5000-115V  
Serial No. : 15E102708  
ID No. : RYG\_EN0032  
Received Date : 11 February 2022  
Test Date : 14 February 2022  
Reference : 2202-0404DSC-4  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
(Rayong Branch)  
616/10 Moo 5 T.Maenam Khu, A.Pluakdaeng,  
Rayong 21140, Thailand  
Laboratory Condition : Temperature ( 25 ± 5 ) °C  
Humidity ( 50 ± 20 ) %  
Test Procedure : In - house method : CP-CH9  
by Comparison Technique with Azide Modification Method  
Tested by : Waleak Sirithean  
Approved by : Saithip  
Approved Signatory  
( ) Meloo Butkruea  
(✓) Saithip Meangmai  
( ) Warakorn Lemgagtrakul  
Issue Date : 18 February 2022

B 0281285



Cert.No.: 22TW34  
Page.: 2 of 2

Result : Dissolved Oxygen Meter Adjustment With Air 100 %

Dissolved Oxygen Probe No.: 15E100464

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.02	8.02	0.0084

This report was certified only for the instrument we tested. It is allowable to use for study the system efficiency. The environmental impact control and present to organization it may concerned 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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Saithip

a 1094744



Cert. No.: 22LM12  
Page.: 1 of 2

## Certificate of Calibration

Equipment : DO Meter with Sensor  
Manufacturer : YSI  
Model : 5000-115V  
Serial No. : 15E102796  
ID No. : RYG\_EN0032  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. (Rayong Branch)  
616/10 Moo 5 T.Maenam Khu, A.Pluakdaeng,  
Rayong 21140, Thailand  
Location : TPA On Site Calibration Laboratory  
Received Order : 11 February 2022  
Calibrated Date : 21 February 2022  
Ambient Temperature : ( 25 ± 10 ) °C  
Relative Humidity : ( 50 ± 30 ) %  
AC Line Voltage : ( 220 ± 22 ) V  
Calibrated by : Kunchil Promprat  
Approved by : Saithip  
Approved Signatory  
( ) Pormhippa Tameyakul  
(✓) Meloo Butkruea  
( ) Suwil Imjai  
Issue Date : 21 February 2022

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

A 0038008



Equipment : DO Meter with Sensor  
Condition As-Received : Used Item  
Reference : 2202-0404DSC-S

Cert. No.: 22LM12  
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:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Digital Thermometer	1523	2186080	2111273	22 Nov 2022

- This certificate is valid only to the item calibrated on date and place of calibration.
- This certification is traceable to the International System of Unit.

Result of Calibration :- ( \* ) Without Adjustment

Function : Temperature measurement.

This instrument was connected with temperature sensor, S/N.: 15E100464

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
20.00	45	20.001	19.88	-0.121	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 %.

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a 1095714



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
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TEL. 0-2717-3010-27 FAX. 0-2719-9484



## Certificate of Calibration

Cert. No.: 22TM317  
Page: 1 of 3

Equipment : Low Temp. Incubator

Manufacturer : Memmert

Model : IPP750

Serial No. : V816.0084

ID No. : RYG\_EN0154

Submitted by : A.S. Laboratory Group (Thailand) Co., Ltd.  
(Rayong Branch)  
616/10 Moo 5 T. Maenam Khu,  
A. Phakdeang, Rayong 21140, Thailand

Location : BOO Room

Received Order : 22 April 2022

Calibration Date : 22 April 2022

Ambient Temperature : ( 26 ± 10 ) °C

Relative Humidity : ( 50 ± 30 ) %

Calibrated by : Man Pattansongpaiboon

Approved by :   
Approved Signatory

- ( ) Ponthipha Tameyskul  
( ) Malee Butkrues  
( ) Suwit Imjai

Issue Date : 3 May 2022

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services & Equipment Calibration and Testing Services.

A 0040735



Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2204-01460C-1

Cert. No.: 22TM317  
Page: 2 of 3

#### Procedure Used :-

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement.  
The temperature scale used was based on ITS-90.

#### Condition of this result of calibration

##### 1. Reference standard instrument:-

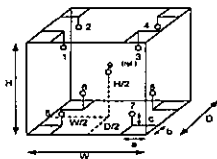
Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34970A	MY44031769	21LM12	02 Sep 2022

- This certificate is valid only to the item calibrated on date and place of calibration.
- This certification is traceable to the International System of Unit.

Result of Calibration :- ( \* ) Without Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Close



Probe Installation Details : Dimension of Chamber :  
a = 10 cm D = 0.80 m  
b = 10 cm W = 1.0 m  
c = 10 cm H = 1.2 m  
Capacity = 0.75 m<sup>3</sup>

Environment during calibration		
	Beginning	Finished
Temp. (°C)	25	25
REL Humid. (%)	54	58
AC Supply ( Volt )	221	223

Position :	Ref. Std. ID No.:
1	9RTD-2/1
2	9RTD-2/2
3	9RTD-2/3
4	9RTD-2/4
5	9RTD-2/5
6	9RTD-2/6
7	9RTD-2/7
8	9RTD-2/8
9 (ref.)	9RTD-2/9

a 1106485



Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2204-01460C-1  
Result of Calibration :- ( \* ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No.: 22TM317  
Page: 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
20.0	20.0	20.0	0.022	0.20	0.22	0.30	2

Calibration Point (°C)	Measured Temperature (°C)							
	Position							
20.0	1	2	3	4	5	6	7	8
	20.209	20.174	20.199	20.110	20.075	20.082	20.027	20.089
	9 (ref.)							
	20.030							

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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a 1106484



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TEL. 0-2717-880-27 FAX. 0-2719-9644



Cert. No.: 22CH377  
Page: 1 of 2

## Certificate of Calibration

Equipment: pH Meter  
Manufacturer: Mettler Toledo  
Model: Seven2Go  
Serial No.: B531256371  
ID No.: RYG\_FS0420  
Condition As-Received: Used Item  
Received Date: 11 March 2022  
Calibration Date: 14 March 2022  
Reference: 2203-0465DSC-1  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Rayong Branch  
616/10 Moo 5 T. Maenam Khu. A. Phukdaeng, Rayong 21140, Thailand  
Ambient Temperature: (25 ± 2.5) °C  
Relative Humidity: (50 ± 15) %  
Calibration Procedure: In-house method;  
- GP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)  
Calibrated by: Worakorn Lomgegrakul  
Approved by:   
Approved Signatory  
Issue Date: 17 March 2022

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

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Approval of the Head of Corporate Services & Equipment Calibration and Testing Services.

A 0039308



Cert. No.: 22CH377  
Page: 2 of 2

### Condition of this calibration result

#### 1. Reference Standard Instrument :-

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	54030048	130RC115	21E2682	25 Aug 2022

This certification is traceable to the International System of Unit maintained at:-  
- Traceable to National Institute of Metrology (Thailand), NIMT

#### 2. Certified Reference Materials :-

The measurement results are traceable to SI through CPA chem Ltd.,  
ANSI-ASQ National Accreditation Board, Accredited No. AR-1635

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	766820	23 Sep 2023
pH 6.863	CPA chem	766822	04 Sep 2022
pH 10.015	CPA chem	766824	04 Sep 2022

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

#### Calibration Results

##### Function: mV Measurement

##### Performing standard curve by Fluke at pH (4.7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement	Coverage factor
	pH	mV	mV	pH	(mV)	k
pH Meter S/N: B531256371	4.00	177.48	177	4.00	0.58	2.00
	7.00	0.00	0	7.00	0.58	2.00
	10.00	-177.48	-178	10.00	0.58	2.00

##### Function: pH Measurement

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

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading (mV)	Actual mV Reading (mV)	Uncertainty of pH measurement (±)	Coverage factor k
pH Electrode SN: 1311407	4.008	4.01	181	0.0079	2.00
	6.863	6.96	7	0.0093	2.00
	10.015	10.01	-171	0.0092	2.00

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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a 1100595



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TEL. 0-2717-880-27 FAX. 0-2719-9644



Cert. No.: 22LM41  
Page: 1 of 2

## Certificate of Calibration

Equipment: pH Meter with Sensor  
Manufacturer: Mettler Toledo  
Model: Seven2Go  
Serial No.: B531256371  
ID No.: RYG\_FS0420  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.  
(Rayong Branch)  
616/10 Moo 5 T. Maenam Khu. A. Phukdaeng, Rayong 21140 Thailand  
Location: TPA On Site Calibration Laboratory  
Received Order: 11 March 2022  
Calibrated Date: 15 March 2022  
Ambient Temperature: (26 ± 1.0) °C  
Relative Humidity: (50 ± 30) %  
AC Line Voltage: (220 ± 22) V  
Calibrated by: Maloo Bulkruea  
Approved by:   
Approved Signatory  
Issue Date: 17 March 2022

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

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Approval of the Head of Corporate Services & Equipment Calibration and Testing Services.

A 0039307



Equipment: pH Meter with Sensor  
Condition As-Received: Used Item  
Reference: 2203-0465DSC-2  
Cert. No.: 22LM41  
Page: 2 of 2

#### Procedure Used :-

Calibration were conducted using in-house calibration procedure GP-OT01 according to comparison with Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath.

The temperature scale used was based on ITS-90.

#### Condition of this result of calibration

##### 1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Digital Thermometer	1523	2186080	2111273	22 Nov 2022

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

3. This certification is traceable to the International System of Unit.

Result of Calibration: (°) Without Adjustment

Function: Temperature measurement.

This instrument was connected with temperature sensor, SN: 1311407

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
25.0	100	25.009	25.4	0.391	0.16	2.00
30.0	100	30.008	30.5	0.492	0.16	2.00
40.0	100	39.997	40.6	0.603	0.16	2.00
50.0	100	49.997	50.8	0.603	0.16	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 %.

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a 1100597





**PENTA CALIBRATION CO., LTD.**  
66/124 The Connect 33 Village Kanchanaphisek Road  
Dokmai Prawat Bangkok 10250  
Tel: +66 (0) 2069-9773  
www.pentalab.com

## Certificate of Calibration

Represent to Certificate of Calibration, PTC/07/22103

Certificate No.: PTC/07/22103 Page: 1 of 2  
Equipment: Digital Balance Condition: Normal  
Manufacturer: Sartorius Serial No: 28207038  
Model: MSE224S-100-DU ID No: RYG\_EN0002  
Type of Balance: Single interval



Customer: ALS Laboratory Group (Thailand) Co., Ltd.  
616/10 Moo 5 T. Maenamkoo, A. Pluakdaeng,  
Rayong 21140, Thailand

REVIEW BY: *Tranhtail*  
APPROVED BY: *D. K.*  
NEXT CAL DATE: 09/09/23

Environment Condition: Temperature 23.9 °C ± 0.3 °C  
Humidity 58.1 %RH ± 4.4 %RH  
Air density 1.17 kg/m<sup>3</sup>

Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd.  
616/10 Moo 5 T. Maenamkoo, A. Pluakdaeng,  
Rayong 21140, Thailand

The Method used: In house method, PTC-WI-07, base on Euramet cg. 18

Traceability: This certificate is traceable to the SI Units through Thai Calibration Service Co., Ltd.  
NSC-ONSC Accreditation No.: Calibration 0189

Date Received: March 23, 2022

Calibration Date: March 23, 2022

Issued Date: March 25, 2022

Calibration By: Mr. Rungroj Metakul



PENTA CALIBRATION CO., LTD.

Reviewed by: *Mr. Kongsak Kalish*  
(Mr. Kongsak Kalish)

Approved By: *Mr. Keattisak Kerdta*  
(Mr. Keattisak Kerdta)  
Laboratory Manager

This certificate is issued the units of measurement according to the International System of Units (SI). It provides traceability of measurement to international or national standard or other recognised national standard laboratories.  
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The effect that the results relate only to the items calibrated.  
This calibration certificate shall not be reproduced except in full only, without written approval from Penta Calibration Co., Ltd.

PTC/07/22103



**PENTA CALIBRATION CO., LTD.**  
66/124 The Connect 33 Village Kanchanaphisek Road  
Dokmai Prawat Bangkok 10250  
Tel: +66 (0) 2069-9773  
www.pentalab.com

Represent to Certificate of Calibration, PTC/07/22103

Certificate No.: PTC/07/22103

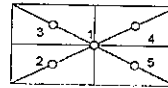
Page: 2 of 2

Measurement Results:

Without Adjustment:

Function Calibration: Non Adjustment

Eccentric Error: Weight to be 1/3, 1/2 or of Maximum capacity



Eccentricity test 100 (g)				
Position (g)				
1	2	3	4	5
0.0000	0.0000	-0.0002	0.0002	0.0002
Maximum deviation:				0.0002

Repeatability Test: Weight to be 1/2 ≤ L, ≤ Maximum capacity

Determination of the standard deviation of weighing balance, Readability 0.0001 (g)

Nominal test value (g)	Standard Deviation
200	0.00003

Error of indication: from nominal value, Readability 0.0001 (g)

Nominal Value (g)	Conventional Mass (g)	Indication (g)	Correction of Balance (g)	Uncertainty (g)	k
0	0.00000	0.0000	0.0000	0.000086	2.16
0.01	0.01000	0.0100	0.0000	0.00010	2.06
0.1	0.10000	0.1000	0.0000	0.00010	2.06
1	1.00000	1.0000	0.0000	0.00010	2.06
2	2.00000	1.9999	0.0001	0.00010	2.06
5	5.00001	5.0000	0.0000	0.00010	2.06
10	10.00000	10.0000	0.0000	0.00010	2.06
20	20.00003	19.9999	0.0001	0.00011	2.05
50	50.00004	49.9999	0.0001	0.00012	2.00
100	100.00004	100.0001	-0.0001	0.00017	2.00
200	200.00011	200.0000	0.0001	0.00027	2.00

Note: Weight of adjust (g)

The End of Certificate

PTC/07/22103



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
55/64 PATTANAKARN RONG RD. 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL: 0-2317-9160-27 FAX: 0-2319-0184



Cert. No.: 22TM1517  
Page: 1 of 3

## Certificate of Calibration

Equipment: Hot Air Oven

Manufacturer: Memmert

Model: LIFE 500

Serial No.: G511.1572

ID No.: RYG\_EN0010

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T. Maenam Khu,  
A. Pluakdaeng,  
Rayong 21140 Thailand

Location: Oven Room

Received Order: 20 October 2022

Calibration Date: 20 October 2022

Ambient Temperature: (26 ± 10) °C

Relative Humidity: (50 ± 30) %

Calibrated by: Man Pattanapongpalboon

Approved by: *Man*  
Approved Signatory

( ) Ponthipha Tameyakul  
( ) Malee Butkruea  
( ) Suwit Imjai

Issue Date: 2 November 2022

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services / Equipment Calibration and Testing Services.

A 0046908



Equipment: Hot Air Oven  
Condition As-Received: Used Item  
Reference: 2210-03780C-2

Cert. No.: 22TM1517  
Page: 2 of 3

Procedure Used :-

Calibration were conducted using calibration procedure CP-0702 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34972A	MY49023932	22LM97	29 Jul 2023

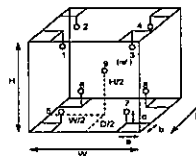
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration: (°) Without Adjustment

Function of UUC: Temperature Source

Fresh air setting: Close



Probe Installation Details: Dimension of Chamber:  
a = 5.0 cm D = 0.40 m  
b = 5.0 cm W = 0.58 m  
c = 5.0 cm H = 0.48 m  
Capacity = 0.11 m<sup>3</sup>

Environment during calibration		
Temp. (°C)	Beginning	Finished
REL.Humid. (%)	25	25
AC Supply (Volt)	54	59
	223	225

Ref. Std. ID No.: @ Calibration Point		
Position	(180) °C	(104) °C
1	21-16TC-01	20-16RTD-01
2	21-16TC-02	20-16RTD-02
3	21-16TC-03	20-16RTD-03
4	21-16TC-04	20-16RTD-04
5	21-16TC-05	22-16RTD-05
6	21-16TC-06	20-16RTD-06
7	21-16TC-07	20-16RTD-07
8	21-16TC-08	22-16RTD-08
9 (ref.)	21-16TC-09	22-16RTD-09

*Man*

a 1132466



Equipment : Hot Air Oven  
 Condition As-Received : Used Item  
 Reference : 2210-03760C-2  
 Result of Calibration : ( ) Without Adjustment  
 Function of UUC\* : Temperature Source  
 Fresh air setting : Close

Cert. No.: 22TM1517  
 Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
104.0	104.0	104.0	0.078	0.52	0.60	0.42	2
180.0	180.0	180.0	0.13	0.88	1.2	1.1	2

Calibration Point (°C)	Measured Temperature (°C)								
	1	2	3	4	5	6	7	8	9 (ref.)
104.0	103.768	103.734	103.723	103.600	104.215	104.131	104.132	103.740	103.747
180.0	179.723	179.359	179.439	179.489	180.361	180.114	180.131	180.243	179.605

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 %.

-000-

a 1132465



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 3344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
 TEL. 0-2717-3000-24 FAX. 0-2719-9184



Cert.No.: 18CG4595  
 Page.: 1 of 2

## Certificate of Calibration

Equipment : Burette  
 Capacity : 50 mL  
 Serial No. :  
 ID. No. : 243007  
 Manufacturer : Witeg  
 Made in : Germany  
 Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
 Eastern Seaboard Industrial Estate (Rayong)  
 84/77 Moo 4, Building No.B1, Highway 331, km 81.5  
 T.Puakdaeng, A.Puakdaeng, Rayong 21140  
 Ambient Temperature : (22 ± 2.5) °C  
 Relative Humidity : (50 ± 10) %  
 Barometric Pressure : 757 mmHg  
 Calibration Procedure : ASTM E 542 - 01  
 Calibrated by : Natcha Chayyingchew

Approved by : Malu  
 Approved Signatory

( ) Pornthippa Tameyakul  
 ( ) Malee Butkruea  
 ( ) Ponpan Palpin  
 ( ) Srisuda Khamtha

Issue Date : 27 September 2018

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

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A 0087224



Equipment : Burette  
 Capacity : 50 mL  
 Serial No. :  
 ID. No. : 243007  
 Manufacturer : Witeg  
 Received Date : 10 September 2018  
 Condition As-Received : Used Item  
 Calibration Date : 21 September 2018  
 Reference : 1809-0411DPC

Cert.No.: 18CG4595  
 Page.: 2 of 2

### Condition of this result of calibration

- Reference Standard Instruments :  

Instruments	Model	Serial No.	ID. No.	Certificate No.	Traceability	Due date
1) Balance	XP205DR	1126143764	140RC004	18MM1	NIMT	2 Jan 2019

This certification is traceable to SI Unit
- This certificate was certified only for the measuring instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- True value is converted to true volume at the standard temperature of 20 °C

### Calibration result :

Nominal capacity (mL)	Reading (mL)	Uncertainty (± mL)	k Factor
50	49.9901	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 %.

-000-

a 0901034



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
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 TEL. 0-2717-3000-21 FAX. 0-2719-9184



Cert.No.: 22CG3154  
 Page.: 1 of 2

## Certificate of Calibration

Equipment : Burette  
 Capacity : 50 mL  
 Serial No. :  
 ID. No. : BKK\_EN0171  
 Manufacturer : Witeg  
 Made in : Germany  
 Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.  
 104 Phatthanakan 40, Phatthanakan Rd.  
 Khwaeng Phatthanakan, Khwaeng Suan Luang  
 Bangkok 10250 Thailand  
 Ambient Temperature : (20 ± 2.5) °C  
 Relative Humidity : (50 ± 10) %  
 Barometric Pressure : 759 mmHg  
 Calibration Procedure : ASTM E 542 - 01  
 Calibrated by : Panward Pramklam

Approved by : P2  
 Approved Signatory

( ) Pornthippa Tameyakul  
 ( ) Malee Butkruea  
 ( ) Ponpan Palpin  
 ( ) Srisuda Khamtha

Issue Date : 31 August 2022

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

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A 0044607



Equipment : Burette  
Received Date : 26 August 2022  
Condition As-Received : Used Item  
Calibration Date : 30 August 2022  
Reference : 2208-0918DSC-2

Cert.No.: 22CG3154  
Page.: 2 of 2

#### Condition of this result of calibration

#### 1. Reference Standard Instruments :

Instruments	Model	Serial No.	ID No.	Certificate No.	Traceability	Due date
1) Balance	AE200S	N03679	140RC001	21MM429	NIMT	22 Sep 2022
2) Thermo-Hygrograph	THDX-CE	00016540	140EC001	22H1243	NIST,NIMT	09 June 2023
3) Thermometer	-	1594592	140EC010	221181	NIMT	10 Feb 2023

This certification is traceable to SI Unit

- The certificate is valid only to the item calibrated on date and place of calibration.
- True value is converted to true volume at the standard temperature of 20 °C

#### Calibration result :

Nominal capacity (mL)	Reading (mL)	Uncertainty (± mL)	k Factor
50	49.9959	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 %.

-000-

a 1123908



Bara Scientific Co., Ltd.  
958 U Chu Liang Building Floor7 Rama4 Road  
Sikim Bangkok Bangkok Thailand 10500  
Tel : 02-6324300 Fax : 02-6375496-7  
www.barascientific.com



## Certificate of Calibration

Number of Page(s) 1 of 3

Certificate No. BSCC-UV-307/22  
Equipment UV/Vis Spectrophotometer  
Model UV-1800  
Manufacturer Shimadzu  
Serial No. A11454908533CD  
ID No. BKK\_EN0018  
Date of receipt 18 September 2022  
Date of calibration 18 September 2022  
Date of issue 23 September 2022

REVIEW BY *Suthe P.*  
APPROVED BY *Kw An*  
NEXT CAL. DATE *16/9/23*

Customer name ALS Laboratory Group (Thailand) Co., Ltd.

Address 104 Soi Phatthanakan 40, Phatthanakan Road, Phatthanakan, Suan Luang, Bangkok 10250

Temperature (22.1-23.3) °C (On site)  
Humidity (58.8-83.2) %RH (On site)

Equipment condition Good Operation

Calibration Location Organic Prep

Calibration Procedure In-house method WI-LV-702-01 based on ASTM E275-01

Traceability Wavelength Accuracy is traceable to certificate No. 95917 and 95918  
Photometric Accuracy is traceable to certificate No. 95924 and 95937  
Stray Light is traceable to certificate No. 95968  
The above certificate are traceable to SI unit through Starna Scientific Ltd.  
(UKAS accredited calibration laboratory NO. 9659)

Calibrated by Mr Waruth Jansong

Approved by

*[Signature]*

Mr.Kanchit Choothep  
Technical Manager

The above results are valid exclusively for the calibrated item(s) as mention in this report / certificate.  
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FM-UV-706-02 Rev.01 (2301/15)



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958 U Chu Liang Building Floor7 Rama4 Road  
Sikim Bangkok Bangkok Thailand 10500  
Tel : 02-6324300 Fax : 02-6375496-7  
www.barascientific.com



## Certificate of Calibration

Certificate No. BSCC-UV-307/22 Number of Page(s) 2 of 3

#### Calibration Results:

#### 1.Wavelength Accuracy

Certified Wavelength (nm)	UUC (nm)	Error (nm)	Uncertainty (±nm)
241.70	241.65	-0.05	0.18
334.02	333.92	-0.10	0.18
418.53	418.46	-0.07	0.18
572.99	572.96	-0.03	0.18
879.41	879.17	-0.24	0.18

#### 2.Photometric Accuracy (UV)

Wavelength (nm)	Certified Absorbance (A)	UUC (A)	Error (A)	Uncertainty (±A)
235	0.0000	0.0000	0.0000	0.0075
	0.7467	0.7461	-0.0006	0.0076
257	0.0000	0.0000	0.0000	0.0075
	0.8662	0.8647	-0.0015	0.0076
313	0.0000	0.0000	0.0000	0.0075
	0.2994	0.2911	-0.0087	0.0075
350	0.0000	0.0000	0.0000	0.0075
	0.6429	0.6426	-0.0003	0.0075

\*CNR = Customer not request

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Tel : 02-6324300 Fax : 02-6375496-7  
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## Certificate of Calibration

Certificate No. BSCC-UV-307/22 Number of Page(s) 3 of 3

#### Calibration Results:

#### 3.Photometric Accuracy (Visible)

Wavelength (nm)	Certified Absorbance (A)	UUC (A)	Error (A)	Uncertainty (±A)
420.0	0.0000	0.0000	0.0000	0.0042
	0.5783	0.5777	-0.0006	0.0042
	0.7628	0.7635	0.0007	0.0045
	1.0206	1.0230	0.0024	0.0042
440.0	0.0000	0.0000	0.0000	0.0042
	0.5821	0.5816	-0.0005	0.0042
	0.7455	0.7480	0.0025	0.0046
	0.9985	1.0005	0.0020	0.0042
465.0	0.0000	0.0000	0.0000	0.0042
	0.5227	0.5219	-0.0008	0.0042
	0.6889	0.6884	-0.0004	0.0051
	0.9487	0.9503	0.0016	0.0042
546.1	0.0000	0.0000	0.0000	0.0042
	0.5207	0.5199	-0.0008	0.0042
	0.6973	0.6971	-0.0002	0.0048
	0.9659	0.9664	0.0005	0.0042
590.0	0.0000	0.0000	0.0000	0.0042
	0.5544	0.5534	-0.0010	0.0042
	0.7253	0.7242	-0.0011	0.0050
	1.0942	1.0943	0.0001	0.0042
635.0	0.0000	0.0000	0.0000	0.0042
	0.5616	0.5606	-0.0010	0.0042
	0.6927	0.6921	-0.0006	0.0053
	1.0881	1.0885	0.0004	0.0042

\*CNR = Customer not request

#### 4.Stray Light\*

Standard cut-off wavelength (nm)	Unit Under Calibration(UUC) Wavelength (nm)	Transmission (T)	Absorbance (A)
200.96±0.1nm	200.30	0.9505	2.0229

The Stray Light transmission reference is less than 1.0%T and Stray light absorbance reference is greater than 2.00A  
\*Stray Light not NSC-ONS Accredited.

The measurement uncertainty is base on a standard uncertainty multiplied by a coverage factor *k*=2 providing a level of confidence of approximately 95%.

\*\*\*End of Certificate\*\*\*

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FM-UV-706-02 Rev.01 (2301/15)


**Agilent  
CrossLab**

## EQUIPMENT QUALIFICATION REPORT (EQR)

### Agilent CrossLab Compliance

Qualification Type: ICPMS-QQ

System ID: JP15471169

EQP Name: AgilentRecommended

EQP Revision: ICPMS.02.50

EQP Publish Date: March 2020

Date: September 30, 2021 4:07:16 PM

Report Type: Report

Org. Name: ALS Laboratory Group (Thailand) Co., Ltd.

Org. Location: 104 Phattanakarn 40, Suan Luang, Bangkok 10250.

REVIEW BY *Saphan H.*

APPROVED BY *Saphan H.*

NEXT CAL. DATE 29 March 2024

Date: September 30, 2021 4:07:16 PM  
System ID: JP15471169

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Date: September 30, 2021 4:07:16 PM  
System ID: JP15471169

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## Test Summary

### Purpose

This section includes a status for each scheduled test and the overall qualification. For each test that is run, (1) the status is automatically determined based on pre-defined limits, and (2) the total number of times the test was run is displayed. For detailed results and specifications for a test, refer to the test results in this EQR.

Details	Status	Runs
Test		
Autosampler Check : SPS4	Pass	1
Integrated Sample Introduction System (ISIS) Check : ISIS3	Pass	1
Autotune : G8403A	Pass	1
Background (No Gas Mode) : G8403A	Pass	1
Background (Gas Modes) : G8403A	Pass	1
20-Minute Stability (No Gas Mode) : G8403A	Pass	1

### Overall Qualification Status

Pass

Date: September 30, 2021 4:07:16 PM  
System ID: JP15471169

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## Service Details

### Purpose

This section includes local contact and delivery details for this service.

### General Details

Service Order No./Request: 8004837154

EQP Name: AgilentRecommended

EQP Revision: ICPMS.02.50

Report Type: Report

### Organization Details

Name: ALS Laboratory Group (Thailand) Co., Ltd.

Location: 104 Phattanakarn 40, Suan Luang, Bangkok 10250.

### Local Contact Details

Name: Chalchanal Komarakul

Job Title: Manager

Qualification Location: Laboratory

### Operator Details

Name: Panthep Kurasethain

Job Title: Field Service Engineer.

### Data Acquisition Details

Acquisition Software Name: MassHunter

Acquisition Software Revision: C.01.04

### Customer Data System (CDS)

IdpMa: MassHunter

Date: September 30, 2021 4:07:16 PM  
System ID: JP15471169

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## Instrument Details

### Purpose

This section describes the as found system configuration.

### Details

#### ICP-MS 1

Manufacturer	Agilent Technologies
Name	7800
Model Number	GB403A
Installed Options	#100H: Standard Package with Hydrogen option
Detector Type	SQ
Nebulizer	Mira Mist (G3181)
Spray Chamber	Quartz
Torch	Quartz
Sampling Cone	Ni
Skimmer Cone	Ni
Serial Number	JP15471169
Firmware Revision	C.01.04

#### ISIS 1

Manufacturer	Agilent Technologies
Name	ISIS3
Model Number	GB411A
Type	Pneumatic pump system
Serial Number	JP15510227

#### Autosampler 1

Manufacturer	Agilent Technologies
Name	SPS4
Model Number	GB410A
Serial Number	AU15430722

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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### Chiller 1

Manufacturer	Agilent Technologies
Name	Chiller
Model Number	G3292A
Serial Number	3U1810713

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Calculation Formulas

### Purpose

This section includes calculation formulas for all available tests. Depending upon which tests are scheduled, all or some apply to your qualification.

For a description of calculations for ICP-MS tests performed by the MassHunter software, refer to the MassHunter application and documentation.

## Protocol Details

### Purpose

This section lists the revisions for all test units used in this report. For complete test-specific and high-level change details, refer to the Revision History document.

Test Revision	Test
ICPMS.02.50	20-Minute Stability (No Gas Mode)
ICPMS.02.50	Autosampler Check
ICPMS.02.50	Autotune
ICPMS.02.50	Background (Gas Mode)
ICPMS.02.50	Background (No Gas Mode)
ICPMS.02.50	Integrated Sample Introduction System (ISIS) Check

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Autosampler Check

## Purpose

This test demonstrates that the autosampler module is correctly installed and connected. It does not test module performance.

## Setpoint

Results

Criteria	Observed Result	Expected Result	Status
----------	-----------------	-----------------	--------

After the self test, is probe in the home position?

Yes

Yes

Pass

As commanded, is the probe positioned at vial 2?

Yes

Yes

Pass

Setpoint Status:

Pass

Run: 1

Overall Autosampler Check Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Integrated Sample Introduction System (ISIS) Check

## Purpose

This test demonstrates that the ISIS module is correctly installed and connected. It does not test module performance.

## Setpoint

Results

Criteria	Observed Result	Expected Result	Status
----------	-----------------	-----------------	--------

As commanded, does the pump rotate?

Yes

Yes

Pass

As commanded, do the valves load and inject?

Yes

Yes

Pass

Setpoint Status:

Pass

Run: 1

Overall Integrated Sample Introduction System (ISIS) Check Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Autotune

## Purpose

This test uses traceable checkout standards to run a software-executed autotune in all modes. The tune report provides values for peak width, mass axis, sensitivity, oxide species, and doubly-charged species tests.

## Setpoint

## Results

Peakwidth Mass 7

0.719

AMU

Agilent Recommended:

&gt;=

0.65

&lt;=

0.80

Status:

Pass

Peakwidth Mass 89

0.750

AMU

Agilent Recommended:

&gt;=

0.55

&lt;=

0.90

Status:

Pass

Peakwidth Mass 205

0.713

AMU

Agilent Recommended:

&gt;=

0.55

&lt;=

0.90

Status:

Pass

Mass Axis 7

7.05

AMU

Agilent Recommended:

&gt;=

6.9

&lt;=

7.5

Status:

Pass

Mass Axis 89

89.55

AMU

Agilent Recommended:

&gt;=

89.9

&lt;=

89.1

Status:

Pass

Mass Axis 205

205.00

AMU

Agilent Recommended:

&gt;=

204.9

&lt;=

205.1

Status:

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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Mass 7 Sensitivity No Gas

94.28

Mcpa/ppm

Agilent Recommended:

&gt;=

125.6

Status:

Pass

Mass 89 Sensitivity No Gas

307.16

Mcpa/ppm

Agilent Recommended:

&gt;=

127.6

Status:

Pass

Mass 205 Sensitivity No Gas

203.77

Mcpa/ppm

Agilent Recommended:

&gt;=

78.6

Status:

Pass

Mass 89 Sensitivity H<sub>2</sub>

28.38

Mcpa/ppm

Agilent Recommended:

&gt;=

23.6

Status:

Pass

Mass 89 Sensitivity H<sub>2</sub>

129.27

Mcpa/ppm

Agilent Recommended:

&gt;=

68

Status:

Pass

Oxide Ratio 156/140

1.047

%

Agilent Recommended:

&lt;=

1.38

Status:

Pass

Doubly Charged Species Ratio 70/140

1.482

%

Agilent Recommended:

&lt;=

2.3

Status:

Pass

Setpoint Status:

Pass

Run: 1

Overall Autotune Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Background (No Gas Mode)

### Purpose

This test examines the background of the ICP-MS in no gas mode by monitoring ions during a blank run.

### Setpoint

#### Conditions

Masses:	7	AMU
	89	AMU
	205	AMU

#### Measurements and Results

Masses (AMU):

Measured Value:

Agilent Recommended:

Status:

7	89	205
0.220	0.300	0.600
cpa		
6.9	4.5	11.5
Pass	Pass	Pass

Setpoint Status:

Pass

Runs: 1

#### Overall Background (No Gas Mode) Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Background (Gas Mode)

### Purpose

This test examines the background of the ICP-MS in the various gas modes by monitoring ions during a blank run.

### Setpoint

Gas Mode: Helium

#### Conditions

Mass:	78	AMU
Integration Time:	1.0	sec
Cycles:	20	

#### Measurements and Results

Mass (AMU):

Measured Value:

Agilent Recommended:

Status:

78
142.8500
cpa
115
Pass

Setpoint Status:

Pass

Runs: 1

### Setpoint

Gas Mode: Hydrogen

#### Conditions

Mass:	78	AMU
Integration Time:	1.0	sec
Cycles:	20	

#### Measurements and Results

Mass (AMU):

Measured Value:

Agilent Recommended:

Status:

78
2.1600
cpa
4.8
Pass

Setpoint Status:

Pass

Runs: 1

#### Overall Background (Gas Mode) Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## 20-Minute Stability (No Gas Mode)

### Purpose

This test monitors the abundance of ions present in the checkout standard over a 20-minute period to verify that the signal is stable. The %RSD of the abundance of given ions is calculated internally by the software and compared to the limit.

### Setpoint

#### Conditions

Mode:	Spectrum
Masses:	7, 8, 59, 89, 140, 205
Integration Time:	0.99 sec
Peak Pattern:	9 points/peak
Repetitions:	20
Sweeps/Replicates:	100

#### Measurements and Results

Masses (AMU):

Stability RSD:

Agilent Recommended:

Status:

7	89	205
0.96400	0.51495	0.73011
%		
2.3	2.3	2.3
Pass	Pass	Pass

Setpoint Status:

Pass

Runs: 1

#### Overall 20-Minute Stability (No Gas Mode) Test Status

Pass

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Declaration of Change Control

This document is under change control. Revision history is maintained and printed on each document. Access to the master documents is limited to process owners. Documents receive periodic review and cannot be assigned an evergreen status. The qualification performed according to this document refers only to the hardware/software configuration in place at the time of the qualification. Agilent Technologies recommends that instrument configuration change management procedures be in place in order to maintain the validation process. Any changes to the analytical or computer hardware or software must be clearly specified. A change management system provides a means for determining the degree of requalification required according to the extent of the changes made. All details of the changes must be thoroughly recorded and documented, together with details of completed tests and their results. Note: Hardware/software configuration management is the customer's responsibility.

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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## Attachments

Training requirements note: The delivery engineer attaches an ACE technique-specific training certificate to the Equipment Qualification Report (EQR). Obtaining ACE technique-specific certification includes pre-requisite trainings for Data Integrity, General Compliance topics (GMP, GLP, ALCOA, etc.), instrument hardware and software components, and the ACE technique itself. The one certificate encompasses all pre-requisite trainings as documented in the Agilent Learning Management System called Success Factors.

Location	Category	Document Name	Page
EQR	General	Certificate of System Qualification	18
EQR	General	Operator's training certificate and qualifications	19
EQR	General	Certificate of Qualification for ACE	20
EQR	General	Certificate of Qualification for ACE	21
EQR	General	Tune reports	22
EQR	General	Test Report	25
EQR	General	Test Report	27
EQR	General	Test Report	29

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

Document Name: Certificate of System Qualification



## Agilent Compliance Engine Self Qualification

Date: September 14, 2021 4:58:15 PM  
Drive Serial #: ACA025C8 Platform Revision: ACE 3.11

Individual self-qualification reports for each specific technique in transfer are also available upon request. They provide additional details on the general report from the overall summary and are structured by the actual algorithms challenged during the process. There is not a one-to-one relationship between algorithms and EQ program sets because some algorithms are used by several tests and across multiple similar hardware components of the qualified systems.

Technique Type	Tests Completed	Result
Atomic Absorption	7	Conforms
Capillary Electrophoresis	10	Conforms
Densitometry	8	Conforms
Emission Spectroscopy	3	Conforms
Gas Chromatography - GCMS	17	Conforms
Gas Chromatography	29	Conforms
Gas Permeation Chromatography	9	Conforms
ICP-MS	8	Conforms
Infrared Spectroscopy	7	Conforms
Liquid Chromatography	17	Conforms
Liquid Chromatography - LCMS	8	Conforms
Microfluidics	18	Conforms
Sample Preparation - Gas Chromatography	8	Conforms
Sample Preparation - Liquid Chromatography	8	Conforms
Supercritical Fluid Chromatography	15	Conforms
Software	6	Conforms
UV-Vis Spectrophotometer	13	Conforms

Overall Qualification Status

Conforms

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

Document Name: Operator's training certificate and qualifications



## Certificate of Completion

Learner Name: Pardeep Kumarshain  
Title Of Course: AN-CE-ICPMS-2-031-A: Agilent 7900 ICPMS FSE update training  
Completion Date: June 7, 2021  
Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific instructions.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service News, internal technical updates, update training, current documentation, technical support, current parts, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual as safety aware, service or training Agilent products.

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

Document Name: Certificate of Qualification for ACE



## Certificate of Completion

Learner Name: Pardeep Kumarshain  
Title Of Course: AN-CE-SS-030-A: ACE 3.X User Update Training  
Completion Date: July 7, 2020  
Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific instructions.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service News, internal technical updates, update training, current documentation, technical support, current parts, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual as safety aware, service or training Agilent products.

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

Document Name: Certificate of Qualification for ACE



## Certificate of Completion

Learner Name: Pendergast, Karnaiah

Title Of Course: AN-CD-ICPMS4-005-0: CrossLab Compliance Hardware Specific Delivery for Agilent ICP-MS Systems

Completion Date: October 31, 2020

Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working to an Agilent authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, Internal technical updates, update training, course documentation, technical support, current parts, and parts options. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

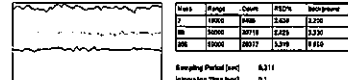
Document Name: Tune reports

## Tune Report

Operator Name: System Name: C:\Agilent\ICPMS4\Tune\Tune\_750230  
Acq Date/Time: 2021-09-30 14:44:58  
Robot Operator: QD 30 Sep 2021  
Instrument Name: CMC350 JP15471169

[No Gas]

Stability

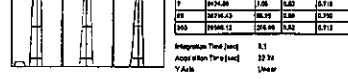


Calculated/Targeted Ratio

Count: 1.00 / 1.00 %

Density Counted: 70 / 140 1.428 %

Removal Ratio



Tune Parameters

Parameter	Value	Unit	Target	Unit	
Plasma Mode	RF Power	1500 W	Inductor Gas	1.00 L/min	
RF Power	1500 W	Optim Gas	—	Makeup Gas	
RF Frequency	1.195 V	Inductor Pump	0.10 rpm	Auxiliary Gas	
Sample Depth	8.0 mm	ISC Temp	2 °C	Plasma Gas	
Level Parameters	Screen 1	0.0 V	Orange Lens	0.1 V	Deflect
Screen 2	-235.0 V	Cell Entrance	-30 V	Plate Bias	
Orange Bias	-40 V	Cell Exit	-40 V	Plate Bias	
Cell Parameters	Use Gas	No	3rd Gas Flow	—	Energy Dispersal
He Flow	0.0 mL/min	Cell Bias	-4.0 V	Cell Bias	

1 of 3

2021-09-30 2:44 PM

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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Document Name: Tune reports

## Tune Report

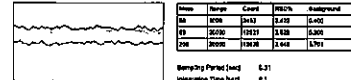
H2 Flow: 0.0 mL/min O2 Flow: 100 V  
QF Pressure: 124 Auto Gain: 0.0000 QF Bias: -3.0 V  
Mass Gain: 124 Auto Offset: 0.01

Hardware Settings

Torch: Torch H: -0.3 mm Torch V: 0.1 mm  
BNC: Discriminator: 4.0 mV Analog HV: 224 V Pulse HV: 1218 V

[No Gas]

Stability



Calculated/Targeted Ratio

Count: 1.00 / 1.00 %

Density Counted: 70 / 140 1.428 %

Tune Parameters

Parameter	Value	Unit	Target	Unit	
Plasma Mode	RF Power	1500 W	Inductor Gas	1.00 L/min	
RF Power	1500 W	Optim Gas	—	Makeup Gas	
RF Frequency	1.195 V	Inductor Pump	0.10 rpm	Auxiliary Gas	
Sample Depth	8.0 mm	ISC Temp	2 °C	Plasma Gas	
Level Parameters	Screen 1	0.0 V	Orange Lens	0.1 V	Deflect
Screen 2	-235.0 V	Cell Entrance	-30 V	Plate Bias	
Orange Bias	-40 V	Cell Exit	-40 V	Plate Bias	
Cell Parameters	Use Gas	Yes	3rd Gas Flow	—	Energy Dispersal
He Flow	0.0 mL/min	Cell Bias	-4.0 V	Cell Bias	
QF Parameters	Mass Gain	124	Auto Gain	0.0000	QF Bias
Mass Offset	124	Auto Offset	0.01	Auto Offset	

Hardware Settings

Torch: Torch H: -0.3 mm Torch V: 0.1 mm  
BNC: Discriminator: 4.0 mV Analog HV: 224 V Pulse HV: 1218 V

2 of 3

2021-09-30 2:44 PM

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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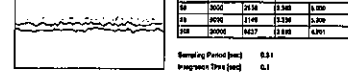
Document Name: Tune reports

## Tune Report

BNC: Discriminator: 4.0 mV Analog HV: 224 V Pulse HV: 1218 V

[No Gas]

Stability



Calculated/Targeted Ratio

Count: 1.00 / 1.00 %

Density Counted: 70 / 140 1.428 %

Tune Parameters

Parameter	Value	Unit	Target	Unit	
Plasma Mode	RF Power	1500 W	Inductor Gas	1.00 L/min	
RF Power	1500 W	Optim Gas	—	Makeup Gas	
RF Frequency	1.195 V	Inductor Pump	0.10 rpm	Auxiliary Gas	
Sample Depth	8.0 mm	ISC Temp	2 °C	Plasma Gas	
Level Parameters	Screen 1	0.0 V	Orange Lens	0.1 V	Deflect
Screen 2	-235.0 V	Cell Entrance	-30 V	Plate Bias	
Orange Bias	-40 V	Cell Exit	-40 V	Plate Bias	
Cell Parameters	Use Gas	Yes	3rd Gas Flow	—	Energy Dispersal
He Flow	0.0 mL/min	Cell Bias	-4.0 V	Cell Bias	
QF Parameters	Mass Gain	124	Auto Gain	0.0000	QF Bias
Mass Offset	124	Auto Offset	0.01	Auto Offset	

3 of 3

2021-09-30 2:44 PM

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471169

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General

Document Name: Test Report

Batch Summary Report									
Batch Folder:		C:\batch\2021\901814							
Analysis File:		901814 new batch.k16							
Tune Step:		21 Hz							
Run	Acq. Date/Time	Data File	Sample Name	Type	Level	CR/Gen			
1	2021-09-30 15:11:41	901814.d	901814	Summary			1.0000		

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2021-09-30 14:28:15

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471159

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Document Name: Test Report

Batch Summary Report									
Batch Folder:		C:\batch\2021\901814							
Analysis File:		901814 new batch.k16							
Tune Step:		21 Hz							
Run	Acq. Date/Time	Data File	Sample Name	Type	Level	CR/Gen			
1	2021-09-30 15:11:41	901814.d	901814	Summary			1.0000		

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2021-09-30 14:27:10

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471159

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General

Document Name: Test Report

Batch Summary Report									
Batch Folder:		C:\Agilent Services\2021\901814\901814 new batch.k16							
Analysis File:		901814 new batch.k16							
Tune Step:		21 Hz							
Run	Acq. Date/Time	Data File	Sample Name	Type	Level	CR/Gen			
1	2021-09-30 15:11:41	901814.d	901814	Summary			1.0000		

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2021-09-30 15:10:31

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471159

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Document Name: Test Report

Batch Summary Report									
Batch Folder:		C:\Agilent Services\2021\901814\901814 new batch.k16							
Analysis File:		901814 new batch.k16							
Tune Step:		21 Hz							
Run	Acq. Date/Time	Data File	Sample Name	Type	Level	CR/Gen			
1	2021-09-30 15:11:41	901814.d	901814	Summary			1.0000		

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2021-09-30 15:10:31

Date: September 30, 2021 4:07:18 PM  
System ID: JP15471159

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## General

Document Name: Test Report

### Batch Summary Report

Batch Folder:	D:\Agilent\Serial\2020 Sep 2021\20 Min
Analysis File:	20 Min.batch.bin
Time Stamp:	41 Min Gas

	Ref	Acct Date/Time	Date File	Sample Name	Type	Level	Division
1		2021-08-30 15:37:44	20 July d	20 July	General		General

Document Name: Test Report

### Match Summary Report

Analysis Table						
	7 / No Gas	9 / No Gas	30 / No Gas	60 / No Gas	140 / No Gas	275 / No Gas
Sample Name	CPS STD	CPS STD	CPS STD	CPS STD	CPS STD	CPS STD
1 / 25 kPa	0.05400	7.02164	0.01017	0.01144	0.01014	0.73044

**Electronic Signature**

### Purpose

This signature page was created and published because the ACE sign-off action was executed, which is valid for the entire document, including attachments. The ACE sign-off is an electronic signature that requires two distinct identification components: unique username and personal password. The Apilient representative who has delivered this service understands the meaning and legal status of an electronic signature. As a trained official operator, the Apilient representative has a unique password and login to access ACE and electronically sign this document. (Other e-signatures can be applied to this document using a Document Content Management or other suitable method defined in your data access and control procedures.)

### Details

Full Name of Signer:	Pantep Kurasathain
Logged On User Name:	pantep_kurasathain@agilent.com
Signature Creation Date:	September 30, 2021
Reason for Signature:	Executed protocol and published this original version of document

### Regulatory Disclaimer

This document provides a protocol to verify and record instrument configuration and evidence of proper operation. It has been prepared from our interpretation of applicable regulations as well as industry best practices. The document is designed to provide an important component of a complete compliance package. Validation depends upon many factors and use of this protocol alone does not assure compliance. Agilent Technologies makes no promises or representations as to its suitability for any specific regulatory program.

## Warranty

Agilent Technologies makes no warranty of any kind to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

User Name: panthep\_kurashain System Id: JP15471109  
Hostname: ASBKKW0215 Print Date: September 28, 2021 4:07:22 PM

## ALB OCHN 2970 30%471 Transaction for 1

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 3:50:51 PM	Audit	Presentation Created	Session	None
September 30, 2021 3:50:59 PM	Start	Configuration	Session	None
September 30, 2021 3:50:59 PM	Audit	Enhancement	Licensing	User is ProEngineer and does not require a unlock code
September 30, 2021 3:52:52 PM	Start	EquiLoaded	Session	EOP details for primary technique [audit] - File path: (Protocol/Pedals/Topic/Configuration/02.500/cphs.02.500.ecp, EOP File Name: D:\chls.02.500.ecp), EOP Name: (Agilent/Recommendat)
September 30, 2021 3:52:54 PM	End	Configuration	Session	None
September 30, 2021 3:52:57 PM	Start	Qualification	Session	QID
September 30, 2021 3:52:57 PM	Start	Execution	Autosampler Check : SP5A; Autosampler Check	None
September 30, 2021 3:53:33 PM	End	Execution	Autosampler Check : SP5A; Autosampler Check	Run Count : 1
September 30, 2021 3:53:04 PM	Start	Execution	Integrated Sample Introduction System (SIS) Check : S3S3; Integrated Sample Introduction System (SIS) Check	None
September 30, 2021 3:53:55 PM	End	Execution	Integrated Sample Introduction System (SIS) Check : S3S3; Integrated Sample Introduction System (SIS) Check	Run Count : 1

User Name: pentapag\_jussachai  
Host Name: ABBK00315  
System ID: JP15471169  
Print Date: September 30, 2021 4:37:23 PM

## ALB OQHW 7906 30Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 2:53:19 PM	Start	Execution	Autolane : GB403A: Autolane 1	None
September 30, 2021 2:55:09 PM	End	Execution	Autolane : GB403A: Autolane 1	Run Count : 1
September 30, 2021 3:35:12 PM	Start	Execution	Background (No Gas Mode): GB403A: No Gas Mode Background 1	None
September 30, 2021 3:55:40 PM	End	Execution	Background (No Gas Mode): GB403A: No Gas Mode Background 1	Run Count : 1
September 30, 2021 3:56:43 PM	Start	Execution	Background (Gas Mode): GB403A: Gas Mode Background 1	None
September 30, 2021 3:58:17 PM	End	Execution	Background (Gas Mode): GB403A: Gas Mode Background 1	Run Count : 1
September 30, 2021 3:58:19 PM	Start	Execution	Background (Gas Mode): GB403A: Gas Mode Background 1	None
September 30, 2021 3:58:26 PM	End	Execution	Background (Gas Mode): GB403A: Gas Mode Background 1	Run Count : 1
September 30, 2021 3:58:41 PM	Start	Execution	20-Minute Stability (No Gas Mode): GB403A: 20-Minute Stability (No Gas Mode) 1	None
September 30, 2021 3:57:22 PM	End	Execution	20-Minute Stability (No Gas Mode): GB403A: 20-Minute Stability (No Gas Mode) 1	Run Count : 1
September 30, 2021 3:57:34 PM	End	Qualification	Session	OQ
September 30, 2021 3:57:34 PM	Start	Reporting	Session	None

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Date: September 30, 2021 4:37:18 PM  
System ID: JP15471169

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User Name: pentapag\_jussachai  
Host Name: ABBK00315  
System ID: JP15471169  
Print Date: September 30, 2021 4:37:23 PM

## ALB OQHW 7906 30Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 4:05:07 PM	Start	Reporting	Session	Report Generated: Certificate
September 30, 2021 4:05:17 PM	End	Reporting	Session	Report Generated: Report
September 30, 2021 4:05:29 PM	Start	Qualification	Session	OQ
September 30, 2021 4:06:08 PM	End	Qualification	Session	OQ
September 30, 2021 4:06:08 PM	Start	Reporting	Session	None
September 30, 2021 4:06:26 PM	End	Reporting	Session	Report Generated: Certificate
September 30, 2021 4:06:26 PM	Start	Reporting	Session	Report Generated: Report

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Date: September 30, 2021 4:37:18 PM  
System ID: JP15471169

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## Metrological Center


SCI ECO Services Company Limited



33/2 Moo 3, T.Banpa, A.Kaengkhoh, 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. T220730

Page 1 of 6

## Certificate of Calibration

Equipment : HEATING BLOCK  
Manufacturer : Environmental Express  
Model : SC 196  
Serial No. : 6974CECW3285  
Customer Code : BKK\_EL0054  
ID No. : T5306A3  
Customer : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanan 40, Phatthanan Rd., Khwaeng Phatthanan,  
Khet Suan Luang, Bangkok 10250  
Customer Location : Acid Digestion Lab  
Date of Receipt : 30 March 2022  
Calibrated By : Watcharaporn Sangtong (Technician)  
Approved By :  / Sujjar Naknakred (Site Calibration Manager)  
Date of Issue : 12 APR 2022

REVIEW BY :   
APPROVED BY :   
NEXT CAL. DATE : 7/10/23

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

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

FM-L12 109-30-05-57



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, 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. T220730

Page 2 of 6

## Calibration Report

Equipment : HEATING BLOCK  
Date of Calibration : 7 April 2022  
Environment : Temperature : 21.8-23.1 °C  
Line Voltage : 221.6-226.3 V  
Relative Humidity : 55 - 65 %RH

## Condition of this results of calibration :

- This equipment was calibrated by insert nine 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. All data show below were final values and the initial data from customer request. The temperature scale used was based on ITS - 90.
- Reference Standard Instrument :
 

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN221-TN230	T210008	08 June 2022
TC	TYPE T	TN231-TN240	T210008	08 June 2022
DATA LOGGER	34970A	TI-49	T210008	08 June 2022
- This certificate is traceable to : National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244)
- Condition of calibrated item : good

- Equipment Description :  
Time Constant : 2 Hour 25 Minute At 95 °C  
Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available
- Adjustment :  
( ) without adjustment ( X ) after adjustment

Approved By: 

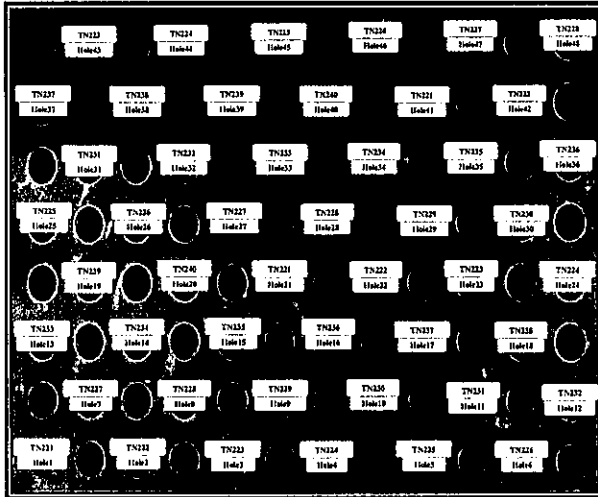
FM-L13 108-30-05-57



Certificate No. T220730

Page 3 of 6

### Calibration Report



FRONT CONTROL

Approved By: \_\_\_\_\_

FM-L13 108/30-05-57



Certificate No. T220730

Page 4 of 6

### Calibration Report

Measurement Results		Average Standard Reading at each position (°C)					
Calibration Point		TN221	TN222	TN223	TN224	TN225	TN226
R1 Hole1-Hole6	CAL POINT	Max	93.60	93.82	94.05	94.20	94.35
		Min	93.07	93.26	93.51	93.66	93.82
		Average	93.33	93.54	93.78	93.93	94.09
R2 Hole7-Hole12	CAL POINT	Max	94.39	94.79	94.63	94.35	94.82
		Min	94.05	94.25	94.08	93.97	94.36
		Average	94.32	94.52	94.36	94.25	94.54
R3 Hole13-Hole18	CAL POINT	Max	95.03	94.54	94.78	94.84	95.06
		Min	94.46	93.98	94.20	94.28	94.49
		Average	94.74	94.25	94.49	94.56	94.78
R4 Hole19-Hole24	CAL POINT	Max	94.89	94.82	95.73	95.85	95.73
		Min	94.33	94.26	95.51	95.62	95.51
		Average	94.61	94.54	95.62	95.73	95.62
R5 Hole25-Hole30	CAL POINT	Max	96.28	96.39	96.37	96.34	96.19
		Min	96.01	96.10	96.02	96.20	95.89
		Average	96.15	96.24	96.20	96.27	96.04
R6 Hole31-Hole36	CAL POINT	Max	96.84	96.97	97.03	96.48	96.33
		Min	96.53	96.65	96.71	96.08	95.96
		Average	96.68	96.81	96.87	96.28	96.16
R7 Hole37-Hole42	CAL POINT	Max	96.46	96.15	96.19	96.06	96.93
		Min	96.13	95.84	95.85	95.72	96.64
		Average	96.30	95.99	96.02	95.89	96.80
R8 Hole43-Hole48	CAL POINT	Max	96.71	96.59	96.13	96.19	96.24
		Min	96.55	96.21	95.80	95.87	96.23
		Average	96.73	96.40	95.96	96.03	96.18

Approved By: \_\_\_\_\_

FM-L13 108/30-05-57



Certificate No. T220730

Page 5 of 6

### Calibration Report

Measurement Results		Average Standard Reading at each position (°C)					
Calibration Point		TN221	TN222	TN223	TN224	TN225	TN226
R1 Hole1-Hole6	CAL POINT	Max	104.47	104.65	104.79	105.31	105.47
		Min	104.15	104.27	104.43	104.98	105.14
		Average	104.31	104.46	104.62	105.15	105.31
R2 Hole7-Hole12	CAL POINT	Max	105.55	105.73	105.65	105.84	105.97
		Min	105.28	105.43	105.35	105.52	105.68
		Average	105.42	105.58	105.50	105.68	105.82
R3 Hole13-Hole18	CAL POINT	Max	106.14	106.06	105.81	105.85	105.81
		Min	105.85	105.81	105.55	105.90	105.53
		Average	106.00	105.94	105.68	105.92	105.67
R4 Hole19-Hole24	CAL POINT	Max	105.86	105.60	104.44	104.51	104.28
		Min	105.61	105.37	104.27	104.35	104.12
		Average	105.74	105.48	104.35	104.43	104.20
R5 Hole25-Hole30	CAL POINT	Max	104.94	104.93	104.97	105.08	104.68
		Min	104.77	104.75	104.76	104.90	104.51
		Average	104.85	104.84	104.86	104.99	104.60
R6 Hole31-Hole36	CAL POINT	Max	105.44	105.45	105.61	104.95	104.84
		Min	105.37	105.27	105.44	104.76	104.66
		Average	105.36	105.36	105.53	104.86	104.75
R7 Hole37-Hole42	CAL POINT	Max	105.17	104.70	104.59	104.51	105.22
		Min	105.00	104.53	104.41	104.35	105.04
		Average	105.08	104.62	104.50	104.43	105.13
R8 Hole43-Hole48	CAL POINT	Max	105.61	105.45	105.10	104.77	104.87
		Min	105.44	105.28	104.92	104.60	104.70
		Average	105.53	105.37	105.01	104.69	104.79

Approved By: \_\_\_\_\_

FM-L13 108/30-05-57



Certificate No. T220730

Page 5 of 6

### Calibration Report

Measurement Results:

HEATING BLOCK		Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (±°C)
	Min, Max	Average	
100.0	100.0, 100.4	100.1	0.29
105.0	105.0, 105.4	105.1	0.20

\* 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 %.

Approved By: \_\_\_\_\_

FM-L13 108/30-05-57



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.  
Saraburi Tel : +66 3627 3096 Fax : +66 3627 3100  
Bangkok Tel : +688 8205 6851 , +689 8247 2360  
Website : www.sceco.co.th E-Mail : calibrate@scg.co.th

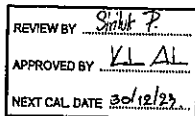


Certificate No. T221644

Page 1 of 4

### Certificate of Calibration

Equipment : Chamber ( Cold 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 : Environmental Laboratory  
Date of Receipt : 27 June 2022  
Calibrated By : Sujjar Nakkakred ( Site Calibration Manager )  
Approved By : [Signature] / Boonchai Suriyawong (Site Calibration Manager)  
Date of Issue : 04 JUL 2022



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

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

FM-L15 11/7/15-02-64



## Metrological Center

SCI ECO Services Company Limited

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



Certificate No. T221644

Page 2 of 4

### Calibration Report

Equipment : Chamber ( Cold Room )  
Date of Calibration : 30 June - 1 July 2022  
Environment : Temperature : 18.9-23.7 °C  
Line Voltage : 222.9-226.5 V  
Relative Humidity : 55 - 65 %RH

#### Condition of this results of calibration :

- This equipment was calibrated by insert nine 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-720 ( 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 .
- Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN161-TN170	T210009	30 July 2022
TC	TYPE T	TN171-TN180	T210009	30 July 2022
DATA LOGGER	34970A	T149	T210009	30 July 2022
- This certificate is traceable to :  
National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TISI-TIS 17025 CALIBRATION 0244 ).
- Condition of calibrated item : good  
Equipment Description :  
Time Constant : 3 Hour - Minute At 3 °C  
Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available
- Adjustment :  
( ) without adjustment ( X ) after adjustment

Approved By: [Signature]

FM-L15 11/7/15-05-63



## Metrological Center

SCI ECO Services Company Limited

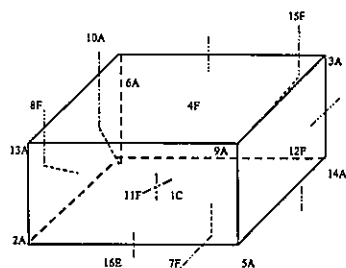
33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.



Certificate No. T221644

Page 3 of 4

### Calibration Report



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

1C = TN161	11F = TN173
2A = TN162	12F = TN172
3A = TN163	13A = TN173
4F = TN164	14A = TN174
5A = TN165	15F = TN175
6A = TN166	16E = TN176
7F = TN167	
8F = TN168	
9A = TN169	
10A = TN170	

Approved By: [Signature]

FM-L15 11/7/15-05-63



## Metrological Center

SCI ECO Services Company Limited

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



Certificate No. T221644

Page 4 of 4

### Calibration Report

#### Measurement Results:

Calibration Point	Average Standard Reading at each position (°C)								
	TN161	TN162	TN163	TN164	TN165	TN166	TN167	TN168	TN169
3	2.71	2.82	2.75	2.89	2.95	3.68	3.02	2.95	3.03
	TN171	TN172	TN173	TN174	TN175	TN176			
	2.97	3.02	2.89	3.04	2.97	3.33			

Chamber ( Cold Room )			Temperature Distribution				
Setling (°C)	Reading (°C)		Average (°C)	Stability (±°C)	Uniformity (°C)	Uncertainty (±°C)	Coverage Factor k
	Min , Max	Average					
3.0	2.9 , 4.0	3.2	2.99	1.05	1.30	1.66	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 photo 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: [Signature]

FM-L15 11/7/15-05-63



# analytikjena

Device parameter	nominal value	actual value
<b>Analytical parameters</b>		
Conditions: max conc.: 10 µg/L PMT-voltage: 404 V		
Blank-solution	Int > 0.0015	Int ... 0.0005
without enrichment / FBR 30 ng/L	RSD < 3 %	Int ... 0.0016
		RSD ... 1.18 %
Conditions: max conc.: 1.7 µg/L PMT-voltage: 395 V		
Blank-solution	Int > 0.008	Int ... 0.0019
with enrichment / FBR 30 ng/L	RSD < 3 %	Int ... 0.0104
	> 3.5	RSD ... 0.89 %
Fok.-factor (Int <sub>2</sub> / Int <sub>1</sub> )		4
<b>Comments</b>		

M. Srikari Paka-on  
Signature Technician

Bangkok, 7/06/2022  
Place, Date (DD/MM/YYYY)

Signature Customer

06/06/2022  
Place, Date (DD/MM/YYYY)

Measurement Procedure / Method: (plus) (date 27.06.2016, Version 2.1) (KHS)  
Project: (and / or) (date 27.06.2016) (KHS)

5.5



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CALIBRATION AND TESTING EQUIPMENT SERVICES  
5344 PATTANASARN ROAD SOI 16, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-24 FAX. 0-2719-9484

Cert. No.: 21TM2168  
Page.: 1 of 3

## Certificate of Calibration

Equipment : Autoclave  
Manufacturer : AES Laboratory  
Model : Masterclavo 528  
Serial No. : 34877152  
ID No. : BKK\_ML0043  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Phatthanakan, Khel Suan Luang,  
Bangkok 10250 Thailand  
Media Preparation Room  
Location :  
Received Order : 1 December 2021  
Calibration Date : 1 December 2021  
Ambient Temperature : ( 26 ± 10 ) °C  
Relative Humidity : ( 50 ± 30 ) %  
Calibrated by : Khit Ruttanaprapachal

Approved by :  
Approved Signatory  
( / ) Parnhippa Tameyakul  
( / ) Males Butkrua  
( / ) Suwit Imjai

Issue Date : 7 December 2021

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 Calibration and Testing Equipment Services.

A 0007203



Equipment : Autoclave  
Condition As-Received : Used Item  
Reference : 2112-0002OC-2  
Cert. No.: 21TM2168  
Page.: 2 of 3

### Procedure Used :-

Calibration were conducted using in-house calibration procedure CP-OT03 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:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1 ) Data Acquisition	34970A	MY44060450	21LM4/1	06 Mar 2022

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

3. This certification is traceable to the International System of Unit.

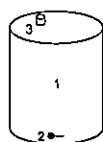
4. This result of calibration covers laboratory autoclaves for the sterilization of goods and material which could be infected with organisms categorized as Hazard Group 1, 2 and 3\*\*

(\*\* = Categorization of pathogens according to hazard and categories of containment, second edition, 1990 )  
It does not cover autoclaves for use with material infect with organisms in Hazard Group 4, for which complete containment and sterilization of infected condensate is considered to be essential.

This result of calibration does not apply to sterilizers or disinfectors used for medical, dental, pharmaceutical or veterinary purposes which are directly concerned with patient care, or those used for fabrics subjected to sterilization which are required to be dry at the end of cycle.

Result of Calibration :- ( \* ) Without Adjustment

Function of UUC\* : Temperature Source



	Environmental		
	( °C )	( %R.H. )	( Volt )
Beginning of Calibration	24	51	220
Finished of Calibration	25	53	221

Position	Description	Ref. Std. ID No.:
1 =	Center of chamber	19-14TC-01
2 =	Temperature sensor	19-14TC-02
3 =	Exhaust port	19-14TC-03

a 1085616



Equipment : Autoclave  
Condition As-Received : Used Item  
Reference : 2112-0002OC-2  
Cert. No.: 21TM2168  
Page.: 3 of 3

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

Operating parameter Set : Temperature = 121.0 °C  
Sterilization period = 15 minute

UUC* Setting ( °C )	UUC* Reading ( °C )	Position	Average* Standard Reading ( °C )	Stability ( ± °C )	Pressure Reading ( bar )	Uncertainty ( ± °C )	Coverage Factor k
121.0	120.7	1	120.792	0.078	1.1	0.75	2
		2	120.674				
		3	120.815				

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

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 %.

-000-

a 1085615





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
334-4 PATTANAKARN ROAD 508 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2719-9006-27 FAX. 0-2719-9184



Cert. No.: Z2TM102  
Page: 1 of 3

## Certificate of Calibration

Equipment : Incubator  
Manufacturer : SHEL-LAB  
Model : 1015A  
Serial No. : 0200599  
ID No. : BKK\_ML0010

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

Location : Incubation & Micrological Reading  
Received Order : 21 January 2022  
Calibration Date : 21 January 2022  
Ambient Temperature :  $(26 \pm 10) ^\circ\text{C}$   
Relative Humidity :  $(50 \pm 30) \%$

Calibrated by : Krisda Malee

Approved by :  
( ) Pornthippa Tameyakul  
( ) Malee Buksuea  
( ) Suwit Imjai

Issue Date : 3 February 2022

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.

A 0037377



Equipment : Incubator  
Condition As-Received : Used Item  
Reference : 2201-06160C-1  
Procedure Used :-

Cert. No.: Z2TM102  
Page: 2 of 3

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement  
method with Data Acquisition which connected with Resistance Temperature Detector (RTD).  
The temperature scale used was based on ITS-90.

### Condition of this result of calibration

#### 1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34972A	MY57013711	21LM7	18 Jun 2022

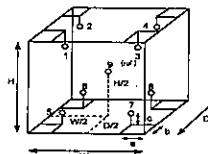
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- ( ) Without Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Close



#### Probe Installation Details : Dimension of Chamber :

Probe	Dimension	Value
a = 10 cm	D = 0.90 m	
b = 10 cm	W = 0.75 m	
c = 10 cm	H = 1.2 m	
	Capacity = 0.81 m <sup>3</sup>	

Environment during calibration		
Parameter	Beginning	Finished
Temp. (°C)	26	25
REL Humid. (%)	53	54
AC Supply (Voll)	220	221

Position	Ref. Std. ID No.
1	18-18RTD-01
2	18-18RTD-02
3	18-18RTD-03
4	18-18RTD-04
5	18-18RTD-05
6	18-18RTD-06
7	18-18RTD-07
8	18-18RTD-08
9 (ref.)	18-18RTD-09

Malee

a 1092309



Equipment : Incubator  
Condition As-Received : Used Item  
Reference : 2201-06160C-1  
Result of Calibration :- ( ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No.: Z2TM102  
Page: 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
35.0	35.0	35.0	0.043	0.41	0.42	0.30	2

Measured Temperature (°C)								
Calibration Point (°C)	Position							
	1	2	3	4	5	6	7	8
35.0	34.801	34.868	34.862	35.012	35.040	35.010	35.064	35.040

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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Malee

a 1092308



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
334-4 PATTANAKARN ROAD 508 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2719-9006-27 FAX. 0-2719-9184



Cert. No.: Z2TM1571  
Page: 1 of 3

## Certificate of Calibration

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 : 21 November 2022  
Calibration Date : 21 November 2022  
Ambient Temperature :  $(26 \pm 10) ^\circ\text{C}$   
Relative Humidity :  $(50 \pm 30) \%$

Calibrated by : Krisda Malee

Approved by :  
( ) Pornthippa Tameyakul  
( ) Malee Buksuea  
( ) Suwit Imjai

Issue Date : 29 November 2022

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.

A 0048150



Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2211-0623OC-1  
Procedure Used :-  
Cert. No.: 22TM1571  
Page : 2 of 3

Calibration were conducted using calibration procedure CP-OT02 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:-

Instrument Model Serial No. Cert. No. Due Date  
1) Data Acquisition 34970A MY44067817 22LM121 22 Aug 2023

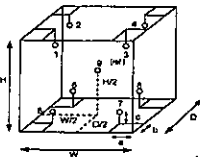
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- ( \* ) After Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Not Available



#### Probe Installation Details :

Dimension of Chamber :  
a = 5.0 cm D = 0.50 m  
b = 5.0 cm W = 0.60 m  
c = 5.0 cm H = 0.60 m  
Capacity = 0.24 m<sup>3</sup>

Environment during calibration		
	Beginning	Finished
Temp. ( °C )	26	26
REL.Humid. ( % )	53	55
AC Supply ( Volt )	219	220

Position :	Ref. Std. ID No.:
1	21-15TC-01
2	21-15TC-02
3	21-15TC-03
4	21-15TC-04
5	21-15TC-05
6	21-15TC-06
7	21-15TC-07
8	21-15TC-08
9 (ref.)	21-15TC-09

a 1138049



Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2211-0623OC-1  
Result of Calibration :- ( \* ) After Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Not Available  
Cert. No.: 22TM1571  
Page : 3 of 3

Calibration Point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Temperature stability ( ± °C )	Temperature uniformity ( °C )	Overall Variation ( °C )	Uncertainty ( ± °C )	Coverage Factor k
180	180	180	0.70	1.5	2.8	1.4	2

Measured Temperature ( °C )									
Position									
Calibration Point ( °C )	1	2	3	4	5	6	7	8	9 (ref.)
180	179.520	180.585	178.555	179.482	178.827	179.938	179.074	180.199	180.068

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

Temperature stability : One-half of the greatest maximum difference of measured temperatures 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 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 %.

-o-o-

a 1138053



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 19, SUAN LUANG, SUAN LUANG BANGKOK 10250  
TEL : 0-2713-9000-27 FAX : 0-2719-9404



## Certificate of Calibration

Cert. No.: 22TM453  
Page.: 1 of 3

Equipment : Water Bath

Manufacturer : Memmert

Model : WB 45

Serial No. : 1704.0285

ID No. : BKK\_ML0052

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

Received Order : 21 February 2022

Calibration Date : 21 February 2022

Ambient Temperature : ( 26 ± 10 ) °C

Relative Humidity : ( 50 ± 30 ) %

Calibrated by : Prawit Sodavitchai

Approved by :   
Approved Signatory

( ) Ponthippa Tameyakul  
( ) Malee Bulkruea  
( ) Suwit Imjai

Issue Date : 25 February 2022

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services & Equipment Calibration and Testing Services

A 0038346



Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2202-0615OC-2  
Procedure Used :-  
Cert. No.: 22TM453  
Page.: 2 of 3

Calibration were conducted using in-house calibration procedure CP-OT04 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:-

Instrument Model Serial No. Cert. No. Due Date  
1) Data Acquisition 34970A MY44035217 21LM30 23 Dec 2022

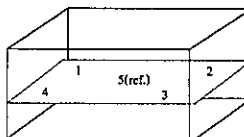
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- ( \* ) Without Adjustment

Function of UUC\* : Temperature Source

	Environmental		AC Voltage Supply ( Volt )
	( °C )	( %R.H. )	
Beginning of Calibration	25	51	220
Finished of Calibration	25	50	220



Front

Position :	Ref. Std. S/N.:
1	N37P300726
2	N37P300727
3	N37P300728
4	N37P300729
5 (ref.)	N37P300730

a 1097103



Equipment: Water Bath  
 Condition As-Received: Used Item  
 Reference: 2202-0615OC-2  
 Result of Calibration: ( ) Without Adjustment  
 Function of UUC: Temperature Source

Cert. No.: 22TM453  
 Page: 3 of 3

Calibration point (°C)	UUC Setting (°C)	UUC Reading (°C)	Average* Standard Reading (°C)				
			Position				
			1	2	3	4	5 (ref.)
44.5	45.1	45.1	44.503	44.454	44.497	44.519	44.478

Calibration point (°C)	Uniformity (°C)	Stability (± °C)	Uncertainty (± °C)	Coverage Factor k
44.5	0.13	0.083	0.15	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 %.

-00-

a 1097102



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
 CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
 534/4 PATTANAKARN ROAD SOI 14, SUANLUANG, SUANLUANG BANGKOK 10250  
 TEL. 0-2717-3900-27 FAX. 0-2719-9944



Cert. No.: 22TM676  
 Page: 1 of 3

## Certificate of Calibration

Equipment: Autoclave

Manufacturer: TOMY

Model: SX-700

Serial No.: 48134190

ID No.: BKK\_ML0041

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

Location: Media Preparation Room

Received Order: 20 May 2022

Calibration Date: 20 May 2022

Ambient Temperature: (26 ± 10) °C

Relative Humidity: (50 ± 30) %

Calibrated by: Preecha Hiahb

Approved by:   
 Approved Signatory

( ) Ponnhippa Tameyakul  
 ( ) Malee Buikrua  
 (✓) Suwit Imjai

Issue Date: 24 May 2022

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than its full, except with the prior written  
 Approval of the Head of Corporate Services & Equipment Calibration and Testing Services

A 0041435



Equipment: Autoclave  
 Condition As-Received: Used Item  
 Reference: 2205-0404OC-2

Cert. No.: 22TM576  
 Page: 2 of 3

### Procedure Used :-

Calibration were conducted using in-house calibration procedure CP-OT03 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

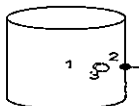
#### 1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34972A	MY57013823	22LM24	26 Feb 2023

- This certificate is valid only to the item calibrated on date and place of calibration.
- This certification is traceable to the International System of Unit.
- This result of calibration covers laboratory autoclaves for the sterilization of goods and material which could be infected with organisms categorized as Hazard Group 1, 2 and 3\*\*  
 (\*\* = Categorization of pathogens according to hazard and categories of containment, second edition, 1990)  
 It does not cover autoclaves for use with material infect with organisms in Hazard Group 4, for which complete containment and sterilization of infected condensate is considered to be essential.  
 This result of calibration does not apply to sterilizers or disinfectors used for medical, dental, pharmaceutical or veterinary purposes which are directly concerned with patient care, or those used for fabrics subjected to sterilization which are required to be dry at the end of cycle.

Result of Calibration: ( ) Without Adjustment

Function of UUC: Temperature Source



	Environmental		
	(°C)	(%R.H.)	(Volt)
Beginning of Calibration	24	55	220
Finished of Calibration	26	57	221

Position	Description	Ref. Std. ID No.
1 =	Center of chamber	19-17TC-11
2 =	Temperature sensor	19-17TC-12
3 =	Exhaust port	19-17TC-13

a 1109670



Equipment: Autoclave  
 Condition As-Received: Used Item  
 Reference: 2205-0404OC-2

Cert. No.: 22TM876  
 Page: 3 of 3

Result of Calibration: ( ) Without Adjustment

Operating parameter Set: Temperature = 108 °C  
 Sterilization period = 10 minute

UUC Setting (°C)	UUC Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor k
108	108	1	107.538	0.19	0.04	0.91	2
		2	107.542				
		3	107.471				

Operating parameter Set: Temperature = 115 °C  
 Sterilization period = 20 minute

UUC Setting (°C)	UUC Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor k
115	115	1	114.502	0.15	0.08	0.89	2
		2	114.582				
		3	114.539				

Operating parameter Set: Temperature = 118 °C  
 Sterilization period = 10 minute

UUC Setting (°C)	UUC Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor k
118	118	1	117.517	0.094	0.09	0.88	2
		2	117.618				
		3	117.530				

Result of Calibration: ( ) Without Adjustment

Operating parameter Set: Temperature = 121 °C  
 Sterilization period = 30 minute

UUC Setting (°C)	UUC Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor k
121	121	1	120.400	0.18	1.1	0.90	2
		2	120.511				
		3	120.465				

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

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a 1109669



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SU 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-390-27 FAX. 0-2719-0444



Cert. No.: 22TM677  
Page.: 1 of 3

## Certificate of Calibration

Equipment : Water Bath  
Manufacturer : Memmert  
Model : WNE 45  
Serial No. : L712.0429  
ID No. : BKK\_ML0056

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthakan 40, Phatthakan Rd.,  
Khwaeng Phatthakan, Yot Suan Luang,  
Bangkok 10250 Thailand  
Incubator & Microbiological Reading

Location :  
Received Order : 20 May 2022  
Calibration Date : 20 May 2022  
Ambient Temperature :  $(26 \pm 10) ^\circ\text{C}$   
Relative Humidity :  $(50 \pm 30) \%$

Calibrated by : Preecha Hahib

Approved by :

( ) Pornthippa Tameyakul  
( ) Maloo Bulkruea  
(x) Sawit Imjai

Issue Date : 24 May 2022

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 & Equipment Calibration and Testing Services.

REVIEW BY Silichok  
APPROVED BY [Signature]  
NEXT CAL. DATE 20/5/23



Equipment : Water Bath  
Condition As-Received : Used item  
Reference : 2205-0404OC-1  
Procedure Used :-

Cert. No.: 22TM677  
Page.: 2 of 3

Calibration were conducted using in-house calibration procedure CP-OT04 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:-

Instrument Model Serial No. Cert. No. Due Date  
1) Data Acquisition 34972A MY57013823 22LM24 26 Feb 2023

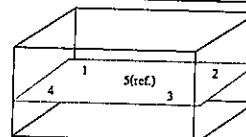
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- ( ) Without Adjustment

Function of UUC\* : Temperature Source

	Environmental		AC Voltage Supply ( Volt )
	( °C )	( %R.H. )	
Beginning of Calibration	24	47	220
Finished of Calibration	24	52	221



Front

Position :	Ref. Std. S/N.:
1	4804539-006
2	4804539-007
3	4804539-008
4	4804539-009
S(ref.)	4804539-010

[Signature]

a 1109674



Equipment : Water Bath  
Condition As-Received : Used item  
Reference : 2205-0404OC-1  
Result of Calibration :- ( ) Without Adjustment  
Function of UUC\* : Temperature Source

Cert. No.: 22TM677  
Page.: 3 of 3

Calibration point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Average* Standard Reading ( °C )				
			Position				
44.5	44.4	44.4	1	2	3	4	5 (ref.)
			44.539	44.497	44.476	44.506	44.507

Calibration point ( °C )	Uniformity ( °C )	Stability ( ± °C )	Uncertainty ( ± °C )	Coverage Factor k
44.5	0.068	0.030	0.15	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 %.

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[Signature]

a 1109673

BKK\_EL0037

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Agilent CrossLab Compliance Services

## Certificate of System Qualification

ES-OQ

System ID: MY16010005  
Organization Name: ALS Laboratory Group (Thailand) Co., Ltd.  
Organization Location: 104 Phatthakan 40 Phatthakan Rd., Bangkok 10250

Date: September 13, 2021 5:49:11 PM  
EQP Name: Agilent Recommended  
EQP Revision: ES.02.50  
Overall Qualification Status: Pass

Preparation

Pass

Instrument Tests

Pass

Autosampler Operation

Pass

REVIEW BY Thana B.  
APPROVED BY [Signature]  
NEXT CAL. DATE 12 May 23

Date: September 13, 2021 5:49:11 PM  
System ID: MY16010005

Page 1 / 5

## ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน



ที่ อก ๐๓๑๐(๑)/ ๑๐๖ ๕

๒๘ มกราคม ๒๕๖๕

เรื่อง คออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอลอส แลบราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียนคอกอายุ/เปลี่ยนแปลงบุคลากร และขอใบสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๓๐ กรกฎาคม ๒๕๖๓

สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผน

๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผน

๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๑ แผน

ตามหนังสือที่อ้างถึง บริษัท เอลอส แลบราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุ  
หนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔  
ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร  
ต้องการโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอลอส แลบราทอรี กรุ๊ป (ประเทศไทย)  
จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑  
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๖ ราย ตามสิ่งที่ส่งมาด้วย ๒  
ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย จำนวน ๕๔ รายการ ไม่ได้มี  
จำนวน ๑๖๖ รายการ ยกเสีย ๑๖ รายการ สิ่งปฏิสหรือวัตถุที่ไม่ใช้แล้ว จำนวน ๓๕ รายการ และดิน  
จำนวน ๑๖๕ รายการ รวมทั้งสิ้นจำนวน ๓๖๑ รายการ ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๖ หากประสงค์จะต่ออายุหนังสือ  
รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอ  
ต่อกรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันสิ้นสุดของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์  
เอกชน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

~ (นายศิระ จันท์เลิศ)

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแทน  
ผู้อำนวยการกองวิจัยและพัฒนา  
ปฏิบัติการทางเคมีและสิ่งแวดล้อม  
กรมโรงงานอุตสาหกรรม

กองวิจัยและพัฒนาเคมีโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบเคมีและทะเบียนห้องปฏิบัติการ

โทร: ๐ ๒๖๐๒ ๔๑๔๖ ๐ ๒๖๐๒ ๔๐๐๒

โทรสาร ๐ ๒๓๕๔ ๓๒๐๘ ๐ ๒๓๕๔ ๓๔๑๕

เอกสารแนบท้ายหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอลอส แลบราทอรี กรุ๊ป (ประเทศไทย) จำกัด

ที่ อก ๐๓๑๐(๑)/

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

๑) นางสาวยุพาพร จันท์ปลั่ง

๒) นางสาวจัญญ์ โภมารกุล ณ นคร

๓) นายศรายุทธ จิตราพันธ์

๔) นางสาวกนกกร เอนก

๕) นายสุริยา สอนแก้ว

๖) นายวิชาญ ชุมพรี

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๐

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๑

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๒

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๓

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๔

ทะเบียนเลขที่ ๖-๒๐๔-ก-๕๖๐๕

~ (นายศิระ จันท์เลิศ)

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแทน  
ผู้อำนวยการกองวิจัยและพัฒนา  
ปฏิบัติการทางเคมีและสิ่งแวดล้อม  
กรมโรงงานอุตสาหกรรม

เอกสารแนบท้ายหนังสือรับทราบขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกสาร

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

ที่ อก ๐๓๐๐(๑) / ๑๐๖๕ ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๒ ราย

- ๑) นางสาวจินดา ไชยธรรม ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๐๘
- ๒) นางสาวศิริกร น้อยรัมย์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๐๙
- ๓) นางสาวณัฐกาญจน์ อัมพรม ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๑๐
- ๔) นางสาวธนพร สายแสง ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๑๕
- ๕) นางสาวนันทดี สมบูรณ์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๑๖
- ๖) นางสาวศรัณยา เกลิมเอี่ยมวงศ์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๑๗
- ๗) นางสาวศิริกร มงคลจิราวุฒิ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๑๘
- ๘) นางสาวศิริลักษณ์ พึ่งแพง ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๐
- ๙) นายสมพงษ์ จันทบุรี ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๑
- ๑๐) นายณรงค์ โภมาลัย ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๒
- ๑๑) นายธนากร จิรายา ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๓
- ๑๒) นางสาวศรัณพร แก้วมัน ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๔
- ๑๓) นางสาวสุวิมล ชัยเรืองวุฒิ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๕
- ๑๔) นางสาวสุชาดา ธรรมการ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๖
- ๑๕) นางสาวเม็กกา ชัยเดชกุล ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๗
- ๑๖) นางสาวศิริกร หนูสวัสดิ์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๘
- ๑๗) นางสาวลาภลักษณ์ ภูนาอำพร ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๒๙
- ๑๘) นายอภิสิทธิ์ สิงหา ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๐
- ๑๙) นายศักดิ์สิทธิ์ ไพศาลพิสุทธิ์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๑
- ๒๐) ว่าที่ร้อยตรีหญิง พรรณิภา ช้างเจริญ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๒
- ๒๑) นางธิดา ศำมแก้ว ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๓
- ๒๒) นางสาวอรรณพ รักษ์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๔
- ๒๓) นางสาวพรรัตน์ แยมกราบดี ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๕
- ๒๔) นายจุลเดช วาริบุตร ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๖
- ๒๕) นางสาวดาสุรัตน์ ร้องคำ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๗
- ๒๖) นายนคร สุเจริญ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๘
- ๒๗) นายบัญชา นามเขตดี ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๓๙
- ๒๘) นายพรมณ์ ศรีรัตนตร ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๐
- ๒๙) นายอุทิศ อุ่มลิ้ม ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๑
- ๓๐) ว่าที่ร้อยตรี เกลิมเกียรติ อมศรีเสริม ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๒
- ๓๑) นางสาววิภา สร้างนา ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๓
- ๓๒) นายอนุพงศ์ รัตนศรีประเสริฐ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๔
- ๓๓) นางสาวจากรัตน์ โอนันต์เพียร ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๕
- ๓๔) นางสาวจากรวรรณ พิมพ์สุทิพย์ ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๔๗๔๖

(นายศิระ จันทะโร) (นายศิระ จันทะโร)

ผู้อำนวยการฝ่ายปฏิบัติการ วิจัยและพัฒนา  
ผู้อำนวยการฝ่ายปฏิบัติการ วิจัยและพัฒนา

๓๕) นางสาวปรารถนาทิพย์...

- ๒ -

๓๕) นางสาวปรารถนาทิพย์ กิจไพศาลศักดิ์

๓๖) นางสาวเดือนใจ ทางกลาง

๓๗) นางสาวจิราพร ศิริเวช

๓๘) นายวรกร ฤทธิรักษ์

๓๙) นายพนง วิริยะสกิจ

๔๐) นายนิธ เชนอบ

๔๑) นายณิศร ขันเพชร

๔๒) นายอรรถพล นิยมวิทย์พันธ์

๔๓) นายภูว พรมเสอาด

๔๔) นายสมเดช ไกลคำพัฒน์

๔๕) นายชวฤทธิ์ วงษ์จันทร์

๔๖) นายอาทิตย์ ศรีเสน

๔๗) นายเจษฎินทร คงศักดิ์ไทย

๔๘) นายวัชร บุญยิ่ง

๔๙) นายณณณติ เอมภา

๕๐) นายอภิวัฒน์ หนูหนู

๕๑) นางสาวสุภาวัญญา มาก

๕๒) นางสาวพัชร ขวาลสมบุญ

๕๓) นางสาววิภา บุญเพ็ง

๕๔) นางสาวกมลกร เข้มเพชร

๕๕) นางสาวพัชรียา หงษ์มณี

๕๖) นางสาวกนกิศา สุวงศ์ตระกูล

๕๗) นางสาวกนกมา นามวัฒน์

๕๘) นางสาวอุไรรัตน์ หัสสร้างเงิน

๕๙) นายธีรวัฒน์ ปวงสุข

๖๐) นายอิทธิพล ยะโส

๖๑) นายประพนธ์ วรรณสุข

๖๒) นายเพชร พงษ์ทิพย์

๖๓) นางสาวกนกวรรณ จันทบาล

๖๔) นางสาวนภสร หล้าบุญ

๖๕) นายสิทธิโชค คงเงิน

๖๖) นางสาววรรณใจ บุญ

๖๗) นางสาวพรณิศา พุ่มคง

๖๘) นางสาวศรณีย์ ยนต์

๖๙) นายวัชร ศรีวิริยะ

๗๐) นายสุวิภา ทองอ่อน

๗๑) นายวิญญู บุญตะเนย์

(นายศิระ จันทะโร) (นายศิระ จันทะโร)

ผู้อำนวยการฝ่ายปฏิบัติการ วิจัยและพัฒนา  
ผู้อำนวยการฝ่ายปฏิบัติการ วิจัยและพัฒนา

๓๖) นายสมบูรณ์...







- ๑๒๖) นางสาวสุดารัตน์ สุนทรสนาม  
๑๒๗) นางสาวสุดารัตน์ นนทประสาท  
๑๒๘) นางสาวรัชฎีกร เนียมกลาง  
๑๒๙) นางสาวกัญญารัตน์ ศรีโสภา  
๑๓๐) นางสาวอัมพาลี คำจันทร์  
๑๓๑) นางบุญฤทธิ์ เอี่ยมเท  
๑๓๒) นายศิริวัฒน์ พานิชย์  
๑๓๓) นางสาวศุภรดา ปิ่นสุรา  
๑๓๔) นางสาวพาณี คุ้มนาม  
๑๓๕) นางสาวจิราภรณ์ พงศา  
๑๓๖) นางสาวภรณ์ มีชัย  
๑๓๗) นางสาวจิตสุภา ประเทืองสุข  
๑๓๘) นางสาวอริสา วิชัยดิธรรม  
๑๓๙) นางสาววิชุดา นาคบุญ  
๑๔๐) นางสาวพนิตา ยอดอินทร์  
๑๔๑) นางสาวนันทิยา จันทะสุน  
๑๔๒) นางสาวนันทิยา จันทะสุน

- ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๓๕  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๓๖  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๓๗  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๓๘  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๓๙  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๐  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๑  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๒  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๓  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๔  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๕  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๖  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๗  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๘  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๔๙  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๕๐  
ทะเบียนเลขที่ ๖-๒๐๔๔-๖-๑๒๕๑

๐๒-๒๒

(นายศิริ จันทะสุน)  
นักวิทยาศาสตร์ชำนาญการพิเศษ วิทยาการเกษตร  
ผู้อำนวยการกองวิจัยและพัฒนาเมล็ดพันธุ์พืช  
ศูนย์วิจัยและพัฒนาเมล็ดพันธุ์พืช  
ศูนย์วิจัยและพัฒนาเมล็ดพันธุ์พืช

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอนเนลอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๒๐๔๔  
ที่ อก ๐๓๑๑(๑) ๑ ๐ ๖ ๕ ลงวันที่ ๒๘ มกราคม ๒๕๖๕  
ขอช่วยสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๖๑ รายการ

น้ำเสีย จำนวน 59 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 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	α-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(4)</sup>
8	β-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(4)</sup>
9	δ-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(4)</sup>
10	γ-BHC	Liquid-Liquid Extraction, Gas Chromatographic 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, Titrmetric Method <sup>(4)</sup>
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic 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

Signature  
(นายศิริ จันทะสุน) ผู้อำนวยการศูนย์วิจัยและพัฒนาเมล็ดพันธุ์พืช  
และทะเบียนห้องปฏิบัติการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
20	Cyanide	Distillation, Colorimetric Method <sup>(a)</sup>
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
33	Formaldehyde	Distillation, Colorimetric Method <sup>(a)</sup>
34	Free Chlorine	1) DPD Ferrous Titrimetric Method <sup>(a)</sup> 2) Iodometric Method <sup>(a)</sup>
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
36	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
37	Hexavalent Chromium	Filtration, Colorimetric Method <sup>(a)</sup>
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method <sup>(a)</sup>
39	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
40	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/Mass spectrometric Method <sup>(a)</sup>
42	Methiocarb	High-Performance Liquid Chromatographic Method <sup>(a)</sup>
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>

31/10/21  
(นางริกาญจน์ นิตกรสิทธิ์โต)  
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ห้องสอบหลัก  
กรมการป้องกันและบรรเทาสาธารณภัย

44 Methomyl...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
44	Methomyl	High-Performance Liquid Chromatographic Method <sup>(a)</sup>
45	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method <sup>(a)</sup> 2) Soxhlet Extraction Method <sup>(a)</sup>
47	Oxamyl	High-Performance Liquid Chromatographic Method <sup>(a)</sup>
48	Propoxur	High-Performance Liquid Chromatographic Method <sup>(a)</sup>
49	pH	Electrometric Method <sup>(a)</sup>
50	Phenols	1) Distillation, Chloroform Extraction Method <sup>(a)</sup> 2) Distillation, Direct Photometric Method <sup>(a)</sup>
51	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
52	Sulfide	Iodometric Method <sup>(a)</sup>
53	Temperature	Laboratory and Field Methods <sup>(a)</sup>
54	Total Dissolved Solids	Dried at 180 °C <sup>(a)</sup>
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method <sup>(a)</sup>
56	Total Suspended Solids	Dried at 103-105 °C <sup>(a)</sup>
57	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(a)</sup>
58	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation <sup>(a)</sup>
59	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(a)</sup>

น้ำได้ดื่ม จำนวน 126 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>

31/10/21  
(นางริกาญจน์ นิตกรสิทธิ์โต)  
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ห้องสอบหลัก  
กรมการป้องกันและบรรเทาสาธารณภัย

3 Aldrin...

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

18 Bis(2-ethylhexyl)phthalate...


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กรมส่งเสริมการค้าระหว่างประเทศ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
22	Butyl Benzyl Phthalate	Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>

34 Chromium (II)...


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ลำดับที่	สารเคมี	วิธีการตรวจ
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> Colorimetric Method <sup>(4)</sup>
35	Chromium (VI)	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
36	Chrysene	Distillation, Colorimetric Method <sup>(4)</sup>
37	Cyanide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric 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>

  
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51 cis-1,2-Dichloroethylene...

ลำดับที่	สารเคมี	วิธีการตรวจ
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>
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>

  
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 และระบบสารสนเทศ

68 Fluorene...

ลำดับที่	สารเคมี	วิธีการวิเคราะห์
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
74	$\alpha$ -HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
75	$\beta$ -HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
76	$\gamma$ -HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
83	Mercury	1) Cold Vapor Atomic Absorption Spectrometric Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>

84 Methanol...

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กรมควบคุมมลพิษ

ลำดับที่	สารเคมี	วิธีการวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
86	Methyl Bromide	Mass Spectrometric Method <sup>(a)</sup>
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
88	2-Methylphenol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
90	Methyl tert-Butyl Ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
91	Naphthalene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
92	Nickel	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> 1) Digestion, Inductively Coupled Plasma Method <sup>(a)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(a)</sup>
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</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>(a)</sup> Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup> Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(a)</sup>

97 Pentachlorophenol...

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กรมควบคุมมลพิษ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
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, Direct Photometric Method <sup>(4)</sup> 2) 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>(13,20)</sup>
110	TPH (C <sub>5</sub> -C <sub>16</sub> )	Solvent Extraction, Gas Chromatographic Method <sup>(9,21)</sup>
111	TPH (C <sub>5</sub> -C <sub>33</sub> )	Solvent Extraction, Gas Chromatographic Method <sup>(9,21)</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>

วิธีแปล 114 1,1,2-Trichloroethane...

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ลำดับที่	สารเคมี	วิธีวิเคราะห์
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>

หมายเหตุ (เปลี่ยนระบบ) จำนวน 16 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Antimony	Isokinetic, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup>
2	Arsenic	Isokinetic, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup>

วิธีแปล 3 Carbon Monoxide...  
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และระบบนิเวศวิทยา

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
3	Carbon Monoxide	1) Sampling Bag Non-Dispersive Infrared Method <sup>[5]</sup> 2) Non-Dispersive Infrared Method <sup>[5]</sup> 3) Instrumental Analyzer Method <sup>[5]</sup>
4	Chlorine	1) Absorption Sampling, Ion Chromatographic Method <sup>[5]</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>[5]</sup>
5	Copper	Isokinetic, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
6	Dioxins	Isokinetic Sampling, Analysis by ISO/IEC 17025 Accredited Laboratory or Analysis by Department of Industrial Works Registered Laboratory (Dioxins/Furans Analysis Approved) <sup>[5]</sup>
7	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method <sup>[5]</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>[5]</sup>
8	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>[5]</sup>
9	Lead	Isokinetic, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
10	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>[5]</sup> 2) Isokinetic, Digestion, Inductively Coupled Plasma Method <sup>[5]</sup>
11	Opacity	Ringelmann's Method <sup>[2]</sup>
12	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>[5]</sup> 2) Chemiluminescence Method <sup>[5]</sup> 3) Instrumental Analyzer Method <sup>[5]</sup>
13	Sulfur Dioxide	1) Absorption Sampling, Barium-Thioin Titrimetric Method <sup>[5]</sup> 2) UV Fluorescence Method <sup>[5]</sup> 3) Instrumental Analyzer Method <sup>[5]</sup>
14	Sulfuric Acid	Isokinetic Sampling, Barium-Thioin Titrimetric Method <sup>[5]</sup>
15	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method <sup>[5]</sup>
16	Xylene	Absorption Sampling, Gas Chromatographic Method <sup>[5]</sup>

สิ่งประดิษฐ์

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มหาวิทยาลัยเทคโนโลยีสุรนารี

สิ่งประดิษฐ์หรือวัสดุที่ไม่ใช่ตัว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>[1,9,23]</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>[10,24]</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>[22,31]</sup>
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,15]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,16]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,15]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,16]</sup>
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,15]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,16]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,15]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,16]</sup>
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,15]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,16]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,15]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,16]</sup>
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>[1,6,15]</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[1,6,16]</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>[7,15]</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>[7,16]</sup>

6 Cadmium...

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มหาวิทยาลัยเทคโนโลยีสุรนารี

ลำดับที่	สารเคมี	วิธีวิเคราะห์
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.16)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.18)</sup>
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12.31)</sup>
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.16)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.18)</sup>
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.15,17)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.16,17)</sup> 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.8.15,17)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.8.16,17)</sup>
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method <sup>(1.6.17)</sup> 2) Alkaline Digestion, Colorimetric Method <sup>(8.17)</sup>

Signature

(นางวิภาดา ชัยพร)

ผู้อำนวยการศูนย์ปฏิบัติการวิเคราะห์ทดสอบ

กรมส่งเสริมการค้าระหว่างประเทศ

11 Cobalt...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.16)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.18)</sup>
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.16)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.18)</sup>
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12.31)</sup>
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12.31)</sup>
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12.31)</sup>
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.23)</sup>

Signature

(นางวิภาดา ชัยพร)

ผู้อำนวยการศูนย์ปฏิบัติการวิเคราะห์ทดสอบ

กรมส่งเสริมการค้าระหว่างประเทศ

2) Soxhlet...



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup> 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(16,19)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(16,19)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,19)</sup>
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(16,18)</sup>

วิธีวิเคราะห์

2) Waste Extraction...

(บางรายการมี ข้อควรระวัง)

ผู้ดำเนินการทดสอบควรปฏิบัติตามวิธีการวิเคราะห์ที่สอดคล้องกับ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
23	Methoxychlor	2) Waste Extraction, Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method <sup>(16,19)</sup> 3) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(16,20)</sup> 4) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(18)</sup> 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method <sup>(19)</sup> 6) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(20)</sup> 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(19,25)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(1022)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(2231)</sup>
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(16,19)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(16,19)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,19)</sup>
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(16,19)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(16,19)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,19)</sup>

วิธีวิเคราะห์

27 Polychlorinated...

(บางรายการมี ข้อควรระวัง)

ผู้ดำเนินการทดสอบควรปฏิบัติตามวิธีการวิเคราะห์ที่สอดคล้องกับ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5'-Trichlorobiphenyl - 2,4',5'-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl 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) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(1)(9)(23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10)(23)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12)(23)</sup>

Signature  
(นางวิภาดา บุญเลิศ) 28 Pentachlorophenol...

ผู้ดำเนินการทดสอบ  
ผู้ดำเนินการทดสอบ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
28	Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1)(9)(23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10)(23)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12)(23)</sup>
29	pH	Electrometric Method <sup>(29)(30)</sup>
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1)(6)(15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1)(6)(18)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7)(15)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7)(18)</sup>
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1)(6)(15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1)(6)(18)</sup>
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1)(6)(15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1)(6)(18)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7)(15)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7)(18)</sup>
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1)(9)(23)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10)(23)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(12)(23)</sup>
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1)(6)(15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1)(6)(18)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7)(15)</sup>

Signature  
(นางวิภาดา บุญเลิศ) 4) Digestion...

ผู้ดำเนินการทดสอบ  
ผู้ดำเนินการทดสอบ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
35	Zinc	4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup> 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.4.15)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.4.16)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>

ดิน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
4	Anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>

9 Benz(a)anthracene...  
(นางจิรายุจน์ นัทรฤทธิไธ)  
ผู้อำนวยการศูนย์มาตรฐานวิธีวิเคราะห์ห้องทดสอบ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
9	Benz(a)anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
11	Benzo(b)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
12	Benzo(k)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
13	Benzoic acid	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
14	Benzo(a)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
15	Benzo(g,h,i)perylene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>
17	Bis(2-chloroethyl)ether	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
18	Bis(2-ethylhexyl)phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
21	Butanol	Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(12.24)</sup>
22	Butyl Benzyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.18)</sup>
24	Carbazole	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>

(นางจิรายุจน์ นัทรฤทธิไธ)  
ผู้อำนวยการศูนย์มาตรฐานวิธีวิเคราะห์ห้องทดสอบ  
26 Carbon tetrachloride...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
28	p-Chloroaniline	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
32	2-Chlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,13)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,14)</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,15,17)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,16,17)</sup>
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method <sup>(8,17)</sup>
36	Chrysene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
37	Cyanide	Extraction, Distillation, Colorimetric Method <sup>(26,27,28)</sup>
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
39	DDD	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>

40 DDE...

(นางสาวอุษา นิลสุภาวดี)  
ผู้อำนวยการศูนย์บริการวิชาการและเผยแพร่  
สำนักงานคณะกรรมการอาหารและยา

ลำดับที่	สารเคมี	วิธีวิเคราะห์
40	DDE	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
41	DDT	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
42	Dibenz(a,h)anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
43	Di-n-Butyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
47	3,3-Dichlorobenzidine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
53	2,4-Dichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,24)</sup>

57 Dieldrin...

(นางสาวอุษา นิลสุภาวดี)  
ผู้อำนวยการศูนย์บริการวิชาการและเผยแพร่  
สำนักงานคณะกรรมการอาหารและยา

ลำดับที่	สารเคมี	วิธีวิเคราะห์
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
58	Diethyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
59	2,4-Dimethylphenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
60	2,4-Dinitrophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
61	2,4-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
62	2,6-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
63	Di-n-Octyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
66	Ethylbenzene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup> Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,24)</sup>
67	Fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
68	Fluorene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
70	Heptachlor Epoxide	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>

71 Hexachlorobenzene...

(นางริญาณี นัทรฤทธิ์)  
ผู้อำนวยการศูนย์วิจัยการวิเคราะห์พิษวิทยา  
กรมอนามัย กระทรวงสาธารณสุข

ลำดับที่	สารเคมี	วิธีวิเคราะห์
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,29)</sup>
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14,29)</sup>
74	α-HCH	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
75	β-HCH	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
76	γ-HCH	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10,22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
77	Hexachlorocyclopentadiene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
78	Hexachloroethane	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
79	Indeno(1,2,3-cd)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
80	Isophorone	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25,31)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(7,19)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,19)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(7,19)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,19)</sup>
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(18)</sup>

(นางริญาณี นัทรฤทธิ์)

(นางริญาณี นัทรฤทธิ์)  
ผู้อำนวยการศูนย์วิจัยการวิเคราะห์พิษวิทยา  
กรมอนามัย กระทรวงสาธารณสุข

2) Thermal...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
84	Methanol	2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry <sup>[19]</sup> 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>[20]</sup> Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>[12,24]</sup> 1) Soxhlet Extraction, Gas Chromatographic Method <sup>[10,22]</sup>
85	Methoxychlor	2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[14,24]</sup> Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>[14,24]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
86	Methyl Bromide	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
87	Methylene Chloride	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
88	2-methylphenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
89	2-Methylnaphthalene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
90	Methyl tert-Butyl Ether	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
91	Naphthalene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>[7,19]</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>[7,16]</sup>
93	Nitrobenzene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
94	N-Nitrosodiphenylamine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
95	N-Nitrosodi-n-propylamine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232	1) Soxhlet Extraction, Gas Chromatographic Method <sup>[10,23]</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>[24,32]</sup>

วิธีแปล  
(นางฉีกาญจน์ อัครฤทธิไธ)

ผู้ดำเนินการควบคุมการปฏิบัติตามวิธีการวิเคราะห์ทดสอบเคมี

- Aroclor 1242...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
	- 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',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6'- Hexachlorobiphenyl - 2,2',4,4',5,5'- Hexachlorobiphenyl - 2,2',3,3',4,4',5'- Heptachlorobiphenyl - 2,2',3,4,4',5,5'- Heptachlorobiphenyl - 2,2',3,4,4',5,6'- Heptachlorobiphenyl - 2,2',3,4',5,5',6'- Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'- Nonachlorobiphenyl Pentachlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup> Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
97	Phenanthrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
98	Phenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>
99	Pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>[25,31]</sup>

วิธีแปล  
(นางฉีกาญจน์ อัครฤทธิไธ)

ผู้ดำเนินการควบคุมการปฏิบัติตามวิธีการวิเคราะห์ทดสอบเคมี

101 Selenium...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
101	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.16)</sup>
102	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.16)</sup>
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.22)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
108	TPH (C <sub>5</sub> -C <sub>6</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
109	TPH (C <sub>5</sub> -C <sub>10</sub> )	1) Solvent Extraction, Gas Chromatographic Method <sup>(11.21)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(21.31)</sup>
110	TPH (C <sub>10</sub> -C <sub>33</sub> )	1) Solvent Extraction, Gas Chromatographic Method <sup>(11.21)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(21.31)</sup>
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
115	2,4,5-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>

116 2,4,6-Trichlorophenol...

(นางวิภาดา จักรกฤษณ์)

ผู้อำนวยการศูนย์ปฏิบัติการด้านพิษวิทยา

ลำดับที่	สารเคมี	วิธีวิเคราะห์
116	2,4,6-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(25.31)</sup>
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.16)</sup>
119	Vinyl Acetate	Mass Spectrometric Method <sup>(14.24)</sup> Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(14.24)</sup>
125	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(7.15)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7.16)</sup>

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กรมส่งเสริมการค้าระหว่างประเทศ

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ผู้อำนวยการศูนย์บริการวิชาการ  
กรมส่งเสริมการค้าระหว่างประเทศ





ที่ อภ ๐๓๐๓(๓)/ ๖๔๕๐

กรมแรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐  
๒๔ มิถุนายน ๒๕๖๕

เรื่อง ขันทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด  
อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารเคมีของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒๔ เมษายน ๒๕๖๔

สิ่งที่ส่งมาด้วย เอกสารแนบท้ายหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอแอลเอส แลบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด จำนวน ๖ แผ่น

ตามหนังสือที่อ้างถึง บริษัท เอแอลเอส แลบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอขึ้นทะเบียน  
ห้องปฏิบัติการวิเคราะห์เอกชน พร้อมรายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ เจ้าหน้าที่ประจำ  
ห้องปฏิบัติการวิเคราะห์ และรายการสารเคมีที่จะทำการวิเคราะห์ ต่อกรมแรงงานอุตสาหกรรม นั้น

กรมแรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบอราทอรี กรุ๊ป  
(ประเทศไทย) จำกัด ขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน มีเลขทะเบียน ๖-๒๓๓ สถานที่ตั้งเลขที่  
๖๑๖/๑๐ หมู่ที่ ๕ ตำบลแม่ไม้ อำเภอลำปาง จังหวัดลำปาง โดยมีองค์ประกอบดังนี้

- ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์
- ๑) นายเดช จ้างชน ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๖
  - ๒) นางวิลาวัณย์ บริรักษ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๓
  - ๓) นายสุพจน์ สลามตะ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๔
- ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์
- ๑) นางสาวณุลล บรรจงกิจ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๕
  - ๒) นางพจนา สีดา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๖
  - ๓) นางสาวณิศา กุลสุรินทร์. ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๗
  - ๔) นายพิทยา ทองแดง ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๘
  - ๕) นางชลธิชา สุนเกษ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๙
  - ๖) ว่าที่ ร.ต.รณชัย ม่วงมา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๐
  - ๗) นายวรวิทย์ พับพา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๑
  - ๘) นายศักดิ์รินทร์ จรรย์ถัย ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๒
  - ๙) นายสุรศักดิ์ สาธิ์น ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๓
  - ๑๐) นางสาวพรศุณ ภาณุดาบห์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๔
  - ๑๑) นายสุภาพร ถาว์แก้ว ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๕
  - ๑๒) นายสุพจน์ดำรงคง ไชยปิตินันท์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๖

๑๓) นายวิศณุ...

-๒-

- ๑๓) นายวิศณุ หัปไชยเนาว์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๗
- ๑๔) นางสาวนาถิ์ เทียนบุตระกูล ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๘
- ๑๕) นางสาวปติดา ผดุงจิตต์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๕๙
- ๑๖) นายธนะสิทธิ์ วงศ์ไชย ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๐
- ๑๗) นายชัยนุสรณ์ เลิศนันทกุลชัย ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๑
- ๑๘) นายสังจา เพ็ชรแสงว ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๒
- ๑๙) นายกันตภณ มณีสัมพันธ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๓
- ๒๐) นางสาวจันทิพย์ โคนนชนะ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๔
- ๒๑) นายธารินทร์ อธิกิจนดา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๕
- ๒๒) นายศุภณัฐ พัสัยพันธ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๖
- ๒๓) นายศุภชัย วงศ์สุริยชัย ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๗
- ๒๔) นายปฐมพงศ์ กรสวัสดิ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๘
- ๒๕) นายไสร ต้นโพธิ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๖๙
- ๒๖) นางสาวกิตติยา สัตยหาชัยกรณณ์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๐
- ๒๗) นางสาวเจษฎาพร ศรีบุญเรือง ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๑
- ๒๘) นางสาวณัฐรินทร์ สิงห์เงา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๒
- ๒๙) นางสาวฉัตรรัตน์ ศรีมงคลโร ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๓
- ๓๐) นายพิพัฒน์ นิกักรัตน์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๔
- ๓๑) นายศิริพงษ์ เรืองลม ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๕
- ๓๒) นายปราเมศ สัตยาคุณ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๖
- ๓๓) นายณัฐนาท ธรรมสโร ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๗
- ๓๔) นางสาวศุภรัตน์ ไส้จันทร์ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๘
- ๓๕) นายเพชรกร อินทเสนา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๗๙
- ๓๖) นายทิวากร เชื้ออามา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๐
- ๓๗) นายอนุรักษ ทองจรรักษ์ดา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๑
- ๓๘) นายอภิชาติ วิลาศ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๒
- ๓๙) นายจักรวรรดิ ศรีรักษา ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๓
- ๔๐) นายประสาธมิตร เอี่ยมเพชร ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๔
- ๔๑) นายภาณุวัฒน์ วั่งง ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๕
- ๔๒) นายสันติ ชัยชนะ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๖
- ๔๓) นายสิทธิชัย แก้วเกตุ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๗
- ๔๔) นายทิมกร กุลชาติ ทะเบียนเลขที่ ๖-๒๒๓-๖-๔๔๘๘

ค. ขอช่วยสารเคมีที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย จำนวน ๑๔ รายการ  
อากาศเสีย (ปล่อยระบาย) จำนวน ๗ รายการ และน้ำใต้ดิน จำนวน ๓ รายการ รวมทั้งสิ้นจำนวน ๒๔ รายการ  
ตามสิ่งที่ส่งมาด้วย

หนังสือฉบับนี้อายุ ๓ ปี นับจากวันที่กรมโรงงานอุตสาหกรรมออกหนังสือ หากประสงค์  
จะต่ออายุหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบ  
คำขอต่อกรมโรงงานอุตสาหกรรมภายใน ๓๐ วัน ก่อนวันสิ้นสุดอายุของหนังสือขึ้นทะเบียนห้องปฏิบัติการ  
วิเคราะห์เอกชน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ



(นางจินดา เศษศรีนทร์)

ผู้อำนวยการส่วนส่งเสริมและควบคุมโรงงาน  
ปฏิบัติการทางเคมีและสิ่งแวดล้อมกรมโรงงานอุตสาหกรรม

๒๘ มิ.ย. ๒๕๖๕

กองวิจัยและพัฒนาผลิตภัณฑ์โรงงาน  
ศูนย์วิจัยและพัฒนาผลิตภัณฑ์โรงงานภาคตะวันออก  
โทร. ๐ ๓๘๐๕ ๗๖๖๑-๓  
ไปรษณีย์อิเล็กทรอนิกส์ [enrpdw@mail.go.th](mailto:enrpdw@mail.go.th)

เอกสารแนบท้ายหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอแอลเอส แลเบอร์ทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๓๒๓  
ที่ อก ๐๓๐๐(๓)/ ๖๔ ๗๐ ลงวันที่ ๒๘ มิถุนายน ๒๕๖๕

ขอช่วยสารเลพิซที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๒๔ รายการ

นับเสีย จำนวน 14 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Biochemical Oxygen Demand	1) 5-Day BOD Test, Membrane Electrode Method <sup>[2]</sup> 2) 5-Day BOD Test, Azide Modification Method <sup>[2]</sup>
2	Chemical Oxygen Demand	1) Open Reflux, Titrimetric Method <sup>[2]</sup> 2) Closed Reflux, Colorimetric Method <sup>[2]</sup> 3) Closed Reflux, Titrimetric Method <sup>[2]</sup>
3	Color	ADMI Weighted - Ordinate Spectrophotometric Method <sup>[2]</sup>
4	Cyanide	Distillation, Colorimetric Method <sup>[2]</sup>
5	Formaldehyde	Distillation, Colorimetric Method <sup>[1]</sup>
6	Free Chlorine	DPD-Ferrous Titrimetric Method <sup>[2]</sup>
7	Oil and Grease	Liquid-Liquid Partition-Gravimetric Method <sup>[2]</sup>
8	pH	Electrometric Method <sup>[2]</sup>
9	Phenols	1) Distillation, Chloroform Extraction Method <sup>[2]</sup> 2) Distillation, Direct Photometric Method <sup>[2]</sup>
10	Sulfide	ZnS Precipitation, Iodometric Method <sup>[2]</sup>
11	Temperature	Laboratory and Field Method <sup>[2]</sup>
12	Total Dissolved Solids	Dried at 180 °C <sup>[2]</sup>
13	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method <sup>[2]</sup>
14	Total Suspended Solids	Dried at 103-105 °C <sup>[2]</sup>

ภาคพิเศษ (ปล่อยระบาย) จำนวน 7 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Carbon Monoxide	1) Sampling Bag, Non-Dispersive Infrared Method <sup>[5]</sup> 2) Instrumental Analyzer Method <sup>[8]</sup>
2	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>[5]</sup>
3	Opacity	Ringelmann's Method <sup>[5,4]</sup>
4	Oxide of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>[6]</sup> 2) Instrumental Analyzer Method <sup>[9]</sup>
5	Sulfur Dioxide	1) Absorption Sampling, Barium-Thioin Titrimetric Method <sup>[5]</sup> 2) Instrumental Analyzer Method <sup>[9]</sup>

วิไล มั่นคง

(นางสาววิไล มั่นคง)

ผู้อำนวยการ

ศูนย์วิจัยและพัฒนาผลิตภัณฑ์โรงงานภาคตะวันออก

Sulfuric Acid...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
6	Sulfuric Acid	Isokinetic Sampling, Barium – Thorin Titrimetric Method <sup>[6]</sup>
7	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method <sup>[7]</sup>

#### น้ำใต้ดิน จำนวน 3 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Cyanide	Distillation, Colorimetric Method <sup>[2]</sup>
2	pH	Electrometric Method <sup>[2]</sup>
3	Phenols	Distillation, Direct Photometric Method <sup>[2]</sup>

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วิไล สันกุล  
(นางสาววิไล สันกุล)  
ผู้อำนวยการ

ศูนย์วิจัยและพัฒนาระบบบำบัดน้ำเสีย

ศูนย์วิจัยและพัฒนาระบบบำบัดน้ำเสีย กองวิจัยและพัฒนาเทคโนโลยีการบำบัดน้ำเสีย กรมควบคุมมลพิษ โทร ๐ ๒๖๐๔ ๗๒๖๓-๓



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แขวงพัฒนาการ เขตสวนหลวง กรุงเทพฯ 10250



ติดต่อเรา

