

# ภาคผนวก ข.51

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กิจกรรมชุมชนสัมพันธ์



## กิจกรรมชุมชนสัมพันธ์ โรงไฟฟ้านครเนื่องเขต ประจำเดือน มกราคม-พฤษภาคม 2565

### สนับสนุนกิจกรรมพบปะเยี่ยมผู้ป่วยติดเตียง ผู้สูงอายุ



โรงไฟฟ้านครเนื่องเขต มอบงบประมาณ  
สนับสนุนกิจกรรมพบปะเยี่ยมผู้ป่วยติดเตียง ผู้สูงอายุ  
ภายในพื้นที่หมู่ที่ 2 ตำบลวังตะเคียน เพื่อเป็นขวัญ  
และกำลังใจกับผู้ป่วยติดเตียงและผู้สูงอายุรวมทั้งลง  
พื้นที่ตรวจสอบโรคระบาดโควิด19 เพื่อสร้าง  
ความสัมพันธ์ที่ดีระหว่างชุมชนในพื้นที่รอบโรงไฟฟ้า

## สนับสนุนโครงการจัดการศึกษาเพื่อพัฒนาอาชีพ (ศูนย์ฝึกอาชีพชุมชน)



โรงไฟฟ้านครเนื่องเขต โดยเจ้าหน้าที่โรงไฟฟ้านครเนื่องเขต ได้มอบงบประมาณสนับสนุนโครงการจัดการศึกษาเพื่อพัฒนาอาชีพ (ศูนย์ฝึกอาชีพชุมชน) โครงการการทำกระเป๋ากาแฟจากผ้าขาวม้า ให้กับประชาชนภายในพื้นที่หมู่ที่ 2 ตำบลวังตะเคียน สามารถเรียนรู้และสร้างรายได้ ลดรายจ่าย เพื่อพัฒนาคุณภาพชีวิตได้ดีขึ้น

3

## สนับสนุนการลงโฆษณา หนังสือรายงานประจำปี 2564



กัลฟ์ กลุ่มบริษัทพลังงานและโครงสร้างพื้นฐานระดับสากล  
เรานำเงินสร้างรากฐานเพื่อรองรับการเติบโตของเศรษฐกิจและสังคม  
เพราะพลังงานเป็นประสิทธิภาพ และความเป็นอยู่ที่ดีของทุกคนในสังคม  
คือเป้าหมายที่ผลักดันเรา ลุยอนาคตที่ยั่งยืน

Gulf Energy Development Public Company Limited  
www.gulf.co.th



โรงไฟฟ้านครเนื่องเขต โดยเจ้าหน้าที่โรงไฟฟ้านครเนื่องเขต ได้มอบงบประมาณสนับสนุนการจัดทำหนังสือรายงานประจำปี 2564 ของสภาอุตสาหกรรมจังหวัดฉะเชิงเทรา

4

## สนับสนุนงบประมาณจัดทำโครงการเลี้ยงไส้เดือน



โรงไฟฟ้านครเนื่องเขต โดยเจ้าหน้าที่โรงไฟฟ้านครเนื่องเขต ได้มอบงบประมาณสนับสนุนโครงการเลี้ยงไส้เดือน ศูนย์เรียนรู้ทัศนพัฒน์ บ้านแพรงชุมชุม ตำบลบางเตย สามารถเรียนรู้และสร้างรายได้ ลดรายจ่าย ตามหลักความพอเพียง

5

## สนับสนุนค่าใช้จ่ายในการประชุมคณะกรรมการและสมาชิกสัจจ



โรงไฟฟ้านครเนื่องเขต โดยเจ้าหน้าที่โรงไฟฟ้านครเนื่องเขต ได้มอบงบประมาณสนับสนุนค่าใช้จ่ายในการประชุมคณะกรรมการและสมาชิกสัจจ สมาคมนักข่าวและสื่อสารมวลชนฉะเชิงเทรา เพื่อสร้างความสัมพันธ์ระหว่างหน่วยงาน

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## สนับสนุนอาหารกลางวันเจ้าหน้าที่สาธารณสุข



โรงไฟฟ้านครเนื่องเขต โดยเจ้าหน้าที่โรงไฟฟ้านครเนื่องเขต ได้มอบงบประมาณสนับสนุนสนับสนุนอาหารกลางวันเจ้าหน้าที่สาธารณสุขที่ปฏิบัติหน้าที่ฉีดวัคซีนโควิด-19 จำนวน 50 ท่าน ณ ศูนย์การค้าโรบินสันไลฟ์สไตล์ จังหวัดฉะเชิงเทรา ระหว่างเดือนกุมภาพันธ์-มีนาคม

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## สนับสนุนประเพณีสงกรานต์ ประจำปี 2565



อบต. คลองนครเนื่องเขต



วังตะเคียน



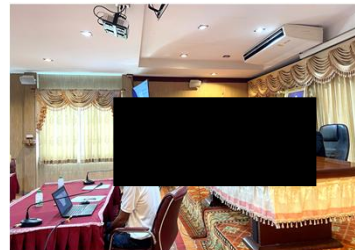
บ.17 ตำบลคลองนครเนื่องเขต



อบต. คลองหลวงแพ่ง

โรงไฟฟ้านครเนื่องเขต มอบงบประมาณสนับสนุนกิจกรรมวันสงกรานต์ปีเก่าต้อนรับปีใหม่ ประจำปี 2565 เพื่อใช้สำหรับการจัดอาหาร เครื่องดื่ม สำหรับเจ้าหน้าที่ผู้ปฏิบัติหน้าที่ประจำจุดตรวจให้กับองค์การบริหารส่วนตำบลคลองนครเนื่องเขตและชุมชนพื้นที่รอบโรงไฟฟ้า เพื่อสร้างความสัมพันธ์ที่ดีร่วมกัน และดูแลความสงบเรียบร้อยให้กับชุมชนในพื้นที่รอบโรงไฟฟ้า

## จัดประชุมคณะกรรมการตรวจสอบผลกระทบสิ่งแวดล้อมฯ ครั้งที่ 1/2565



โรงไฟฟ้านครเนื่องเขต จัดประชุมคณะกรรมการตรวจสอบผลกระทบสิ่งแวดล้อมฯ ครั้งที่ 1/2565 ประกอบด้วย คณะกรรมการตัวแทนภาคประชาชน ภาครัฐ ตัวแทนโรงไฟฟ้า และผู้ทรงคุณวุฒิ ทั้งนี้เพื่อให้ทราบถึงความคืบหน้าของการดำเนินการของโรงไฟฟ้า และติดตามผลกระทบที่อาจจะเกิดขึ้น ณ ศูนย์กีฬาประจําหมู่ 5 ต.คลองนครเนื่องเขต

9

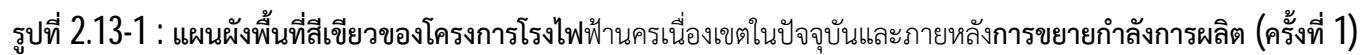


Thank You

# ภาคผนวก ข.52

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พื้นที่สีเขียวของโครงการ



# ภาคผนวก ข.53

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ผลการวิเคราะห์ตะกอนดิน ประจำปี พ.ศ. 2565



## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251508**

Date Received : Jun 06, 2022

Date Reported : Jun 14, 2022

Report Number : 2298620-1

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<b>Sample Number</b>	2251508-1
<b>Sampled Date</b>	Jun 06, 2022 10:42 AM
<b>Sample Description</b>	Solid Waste
<b>Location</b>	เครื่องแยกน้ำออกจากตะกอน
<b>Date Analysis Commenced</b>	Jun 07, 2022
<b>Condition of Sample</b>	Packed in one plastic bag and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Physical Parameters</b>							
pH aqueous phase 50% (w/v)		-	-	7.1	2.1-12.4	Based on US EPA, Method 9045D	Bangkok
<b>Total Concentration Test (TTLC) : Metals</b>							
Barium	mg/kg	-	1.00	64.3	<10000	Based on US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	<100	Based on US EPA, Method 3050B and 6010D	Bangkok
Copper	mg/kg	-	1.00	7.26	<2500	Based on US EPA, Method 3050B and 6010D	Bangkok
Lead	mg/kg	-	1.00	2.52	<1000	Based on US EPA, Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	<20	Based on US EPA, Method 7471B	Bangkok
Nickel	mg/kg	-	1.00	4.82	<2000	Based on US EPA, Method 3050B and 6010D	Bangkok
Zinc	mg/kg	-	1.00	19.0	<5000	Based on US EPA, Method 3050B and 6010D	Bangkok

**Guideline :** Notification of the Ministry of Industry regarding Waste or Used Material Disposal, published in the Royal Government Gazette, Vol.123, Special Part 11D, dated January 25, B.E. 2549 (2006).

**Sampled By :** Anupong Rattanasriprasert

Remark :

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

Technical Management

*Sawitree N.*

Sawitree Noisangiam  
Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

*Kanok Korn Anek*

Kanok Korn Anek  
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

The above results are valid only for the analyzed/tested 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) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251508**

Date Received : Jun 06, 2022

Date Reported : Jun 14, 2022

Report Number : 2298620-2

Page 1 of 1

**Sample Number** 2251508-1  
**Sampled Date** Jun 06, 2022 10:42 AM  
**Sample Description** Solid Waste  
**Location** เครื่องแยกน้ำออกจากตะกอน  
**Date Analysis Commenced** Jun 08, 2022  
**Condition of Sample** Packed in one plastic bag and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Total Concentration Test (TTLC) : Metals</b>							
Aluminium	mg/kg	-	1.00	15328	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Iron	mg/kg	-	1.00	2495	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	433	No Standard	Based on US EPA, Method 3050B and 6010D	Bangkok

**Guideline :** Notification of the Ministry of Industry regarding Waste or Used Material Disposal, published in the Royal Government Gazette, Vol.123, Special Part 11D, dated January 25, B.E. 2549 (2006).

**Sampled By :** Anupong Rattanasriprasert

Remark :

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

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Approved by

*Sawitree N.*

Sawitree Noisangiam  
Manager

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# ภาคผนวก ข.54

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ใบกำกับการขนส่งของเสีย



หมายเลขใบกำกับการขนส่งของเสียอันตราย : Manifest No.

PPST 001

## ใบกำกับการขนส่งของเสียอันตราย (Uniform Hazardous Waste Manifest)

## 1. ส่วนของผู้ก่อเกิดของเสียอันตราย : This section must be completed by the Generator

1) ชื่อ : <u>ม.กอล์ฟ เทฟท์ อินเอนเรจ ลิมิเตด</u>		2) เลขประจำตัวผู้ก่อเกิดของเสียอันตราย : Generator's ID.....	
สถานประกอบการ : Generator address : <u>79 ม.17 ต.คลองนารายณ์ อ.เมือง จ.ตราด</u>		โทรศัพท์ : Phone..... โทรสาร : Fax.....ฉุกเฉิน : Emergency.....	
3) ผู้ขนส่งของเสียอันตราย : Transporter <u>หะเม็ทเทร่า</u>			
รายชื่อ บริษัท : First company name..... <u>บริษัท ประภาศิริ ออยล์ จำกัด</u>		เลขประจำตัวผู้ขนส่งของเสียอันตราย รายที่ 1 : Transporter's ID..... <u>DIW-T-190600023</u>	
รายชื่อ บริษัท : Second company name.....		เลขประจำตัวผู้ขนส่งของเสียอันตราย รายที่ 2 : Transporter's ID.....	
4) ผู้เก็บรวบรวม บำบัด และกำจัดของเสียอันตราย : Treatment Storage Disposal Facilities (TSDFs)			
รายชื่อ บริษัท : First TSDF's name..... <u>บริษัท ประภาศิริ ออยล์ จำกัด</u>		เลขประจำตัวผู้เก็บรวบรวม บำบัด และกำจัดของเสียอันตราย รายที่ 1 Disposer's ID..... <u>DIW-D-196200034</u>	
รายชื่อ บริษัท : Second TSDF's name.....		เลขประจำตัวผู้เก็บรวบรวม บำบัด และกำจัดของเสียอันตราย รายที่ 2 Disposer's ID.....	
5) รายละเอียดของเสียอันตรายที่ขนส่งเคลื่อนย้าย :			
ลำดับ No.	รายละเอียด (Description)	รหัสของเสีย อันตราย : Waste ID.	รวมขวด/ลิตร/กิโลกรัม รวมขวด : No.    ชนิด : Type
1.	<u>น้ำมันเครื่องสีฟ้า 13 02 08 042</u>	<u>1501/10</u>	<u>8</u> <u>ถัง</u> <u>1600</u> <u>กก.</u>
2.	<u>น้ำมันเครื่องสีฟ้า 1501/10 049</u>	<u>049</u>	<u>8</u> <u>ถัง</u> <u>128</u> <u>กก.</u>
รวมปริมาณของเสียอันตรายทั้งหมด : Total Quantity    ของเหลว : liquid.....ลิตร / ลูกบาศก์เมตร : Liters / cu.m    ของแข็ง : solid.....กิโลกรัม / ตัน : Kgs. / tons.			
6) การปฏิบัติที่มีลักษณะพิเศษ และข้อมูลเพิ่มเติม Special handling Instructions and additional information			
7) คำรับรอง : ข้าพเจ้าขอรับรองว่าได้ส่งมอบของเสียอันตรายแล้วตามที่ระบุข้างต้น และมีการบรรจุติดป้ายหรือฉลากอย่างเหมาะสมตรงตามข้อกำหนดของกฎหมายทุกประการ : Generator Certificate : I hereby declare that the contents of this consignment are accurately described above and have been packed and labeled and are in proper condition for transport according to regulation ลงชื่อ Generator's name..... <u>Okapolsan T</u> ลายเซ็น : Signature.....    วันที่ : Date..... <u>25</u> เดือน : Month..... <u>2</u> พ.ศ. : Year..... <u>65</u>			

## 2. ส่วนของผู้ขนส่งของเสียอันตราย : This section must be completed by the Transporter

1) ชื่อผู้ขนส่งรายที่ 1 : Transporter's name..... <u>บริษัท ประภาศิริ ออยล์ จำกัด</u>		2) พาหนะที่ใช้ <input checked="" type="checkbox"/> รถบรรทุก <input type="checkbox"/> รถไฟ <input type="checkbox"/> เรือ <input type="checkbox"/> เครื่องบิน	
เลขประจำตัวผู้ขนส่ง : Transporter's ID..... <u>DIW-T-190600023</u>		Vehicle    Truck    Train    Ship    Plane	
โทรศัพท์ : Phone..... <u>036-670-468</u> โทรสาร : Fax.....   ฉุกเฉิน : Emergency..... <u>(081) 905-3673</u>		3) เลขทะเบียน <u>นข 6213 09</u>	
พาหนะ : Vehicle ID			
4) คำรับรอง : ข้าพเจ้าขอรับรองว่าได้รับของเสียอันตรายแล้วตามที่ระบุข้างต้น และการขนส่งเป็นไปตามข้อกำหนดของกฎหมายทุกประการ Transporter Certification : I hereby declare that I have received the type and quantity of waste as described above by the generator and that waste has been transported according to regulations. โดยขนส่งจากจังหวัด : From..... <u>ตราด</u> ไปยังจังหวัด : To..... <u>สระบุรี</u> ใช้ระยะเวลาประมาณ : Time spending..... <u>4</u> ชม./วัน : hours/day ลงชื่อผู้ขนส่งรายที่ 1 : Transport's name..... <u>กฤษดา 100 จ.ตราด</u> ลายเซ็น : Signature.....    วันที่ : Date..... <u>25</u> เดือน : Month..... <u>2</u> พ.ศ. : Year..... <u>65</u>			
5) ชื่อผู้ขนส่งรายที่ 2 : Transporter's name.....		6) พาหนะที่ใช้ <input type="checkbox"/> รถบรรทุก <input type="checkbox"/> รถไฟ <input type="checkbox"/> เรือ <input type="checkbox"/> เครื่องบิน	
เลขประจำตัวผู้ขนส่ง : Transporter's ID.....		Vehicle    Truck    Train    Ship    Plane	
โทรศัพท์ : Phone.....    โทรสาร : Fax.....   ฉุกเฉิน : Emergency.....		7) เลขทะเบียน	
พาหนะ : Vehicle ID			
8) คำรับรอง : ข้าพเจ้าขอรับรองว่าได้รับของเสียอันตรายแล้วตามที่ระบุข้างต้น และการขนส่งเป็นไปตามข้อกำหนดของกฎหมายทุกประการ Transporter Certification : I hereby declare that I have received the type and quantity of waste as described above by the generator and that waste has been transported according to regulations. โดยขนส่งจากจังหวัด : From.....    ไปยังจังหวัด : To.....    ใช้ระยะเวลาประมาณ : Time spending..... ชม./วัน : hours/day ลงชื่อผู้ขนส่งรายที่ 2 : Transporter's name.....    ลายเซ็น : Signature.....    วันที่ : Date.....    เดือน : Month.....    พ.ศ. : Year.....			

## 3. ส่วนของผู้ประกอบการสถานเก็บรวบรวม บำบัด และกำจัดของเสียอันตราย : This section must be completed by TSDFs

1) ชื่อผู้รับกำจัด TSDF's name..... <u>บริษัท ประภาศิริ ออยล์ จำกัด</u>		2) เลขประจำตัวผู้รับกำจัด : TSDF's ID..... <u>DIW-D-196200034</u>	
สถานที่กำจัด : TSDF's address..... <u>199/1 ม.3 ต.ท่ามะปราง อ.แก่งคอย จ.สระบุรี 18110</u>		โทรศัพท์ : Phone..... <u>036-670-468</u> โทรสาร : Fax.....   ฉุกเฉิน : Emergency..... <u>(081) 905-3673</u>	
3) คำรับรอง : ข้าพเจ้าขอรับรองว่าได้รับของเสียอันตรายแล้วตามที่ระบุข้างต้น TSDF certificate of arrival : I hereby declare that I have received the reference load. และสามารถกำจัดของเสียที่รับมานี้ได้ภายในระยะเวลา : Treatment period..... <input type="checkbox"/> วัน : day <input type="checkbox"/> เดือน : month <input type="checkbox"/> ปี : Year นับจากวันที่ได้รับของเสีย : since the day that received waste ลงชื่อผู้รับกำจัด : TSDF's name.....    ลายเซ็น : Signature.....    วันที่ : Date.....    เดือน : Month.....    พ.ศ. : Year.....			
4) กรณีของเสียอันตรายไม่ตรงตามที่แจ้ง : Discrepancy Notification ประเภทของเสียอันตราย : Type of waste.....    ปริมาณ : Quantity..... การดำเนินการ : Action taken <input type="checkbox"/> ส่งคืน : Returned <input type="checkbox"/> จัดประเภทใหม่ : Reclassified / รหัส : Waste ID..... <input type="checkbox"/> รับกำจัด : Accepted    เหตุผล : Reason of action..... วันที่ส่งคืน : Date returned..... (วัน / เดือน / ปี : dd / mm / yy) หมายเลขใบกำกับการขนส่งของเสียอันตรายที่ส่งกลับ : Returned manifest no..... ชื่อผู้ส่งคืน : TSDF's name.....    ลายเซ็นผู้ส่งคืน : TSDF's name.....			

ฉบับที่ 2 ผู้ก่อเกิดของเสียอันตราย



## ภาคผนวก ค

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ใบรับรองผลการตรวจวิเคราะห์

# ภาคผนวก ค.1

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ผลการตรวจสอบความถูกต้องของ CEMs ประจำปี พ.ศ. 2564



## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214525**

Date Received : May 27, 2022  
Date Reported : Jun 22, 2022  
Report Number : 2220839-1

Page 1 of 2

**Sample Number** : 2214525-1  
**Sampled Date** : May 27, 2022  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 11  
**Parameter** : NOx

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	27 May 22	10:00	10:20	13.48	13.18	29.61	27.52	-2.09
2	27 May 22	10:21	10:41	13.29	13.15	29.15	27.38	-1.77
3	27 May 22	10:42	11:02	13.59	12.96	29.86	27.03	-2.82
4	27 May 22	11:03	11:23	13.18	12.55	28.94	26.17	-2.77
5	27 May 22	11:24	11:44	13.00	12.27	28.53	25.59	-2.95
6	27 May 22	11:45	12:05	13.03	12.24	28.63	25.54	-3.09
7*	27 May 22	12:06	12:26	13.13	12.15	28.99	25.44	-3.55
8	27 May 22	12:27	12:47	13.09	12.36	28.76	25.85	-2.92
9*	27 May 22	12:48	13:08	13.16	12.31	28.81	25.63	-3.18
10*	27 May 22	13:09	13:29	13.08	12.23	28.67	25.48	-3.19
11	27 May 22	13:30	13:50	13.00	12.22	28.50	25.47	-3.03
12	27 May 22	13:51	14:11	12.46	11.74	27.13	24.40	-2.73
<b>Average</b>						28.79	26.10	-2.69
<b>Confidence Coefficient (CC)</b>								0.35
<b>Relative Accuracy (Compared with Emission Standard : 60 ppm) (%)</b>								5.06
<b>Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)</b>								≤ 10%

Reference Method : US EPA Method 7E

Remark: \* Sample with \* is a rejected data

<sup>1/</sup> Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with Emission Standard 60 ppm at 7%O2  
RA Result is within Criteria

Technical Management

*Wichan Choonharat*

Wichan Choonharat

Manager

ทะเบียนเลขที่ ว-204-ค-6113

Approved by

*Sarayuth Jitranont*

Sarayuth Jitranont

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

**Client** : Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214525**

Date Received : May 27, 2022  
Date Reported : Jun 22, 2022  
Report Number : 2220839-1

Page 2 of 2

**Sample Number** : 2214525-1  
**Sampled Date** : May 27, 2022  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 11  
**Parameter** : O2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1	27 May 22	10:00	10:20	14.57	14.25	-0.33
2*	27 May 22	10:21	10:41	14.56	14.23	-0.34
3*	27 May 22	10:42	11:02	14.57	14.23	-0.34
4	27 May 22	11:03	11:23	14.57	14.24	-0.33
5	27 May 22	11:24	11:44	14.56	14.24	-0.33
6	27 May 22	11:45	12:05	14.57	14.24	-0.33
7*	27 May 22	12:06	12:26	14.60	14.26	-0.34
8	27 May 22	12:27	12:47	14.58	14.25	-0.32
9	27 May 22	12:48	13:08	14.55	14.22	-0.33
10	27 May 22	13:09	13:29	14.56	14.23	-0.33
11	27 May 22	13:30	13:50	14.56	14.23	-0.32
12	27 May 22	13:51	14:11	14.52	14.21	-0.31
<b>Average</b>				14.56	14.23	-0.33
<b>Confidence Coefficient (CC)</b>						-
<b>Relative Accuracy (Compared in Actual) (%)</b>						0.33
<b>Relative Accuracy Criteria <sup>1/</sup> (%)</b>						≤ 1%

Reference Method : US EPA Method 3A

Remark: \* Sample with \* is a rejected data

<sup>1/</sup> Relative Accuracy Criteria of O2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 3 (PS-3)

RA Result is within Criteria

**Sampled By :** Anuvat Mounpair

**Technical Management**

Wichan Choonharat

Manager

ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jitranont

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
 99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214526**

Date Received : May 27, 2022  
 Date Reported : Jun 22, 2022  
 Report Number : 2220840-1

Page 1 of 2

**Sample Number** : 2214526-1  
**Sampled Date** : May 26, 2022  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 12  
**Parameter** : NOx

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	26 May 22	10:15	10:35	14.13	13.65	30.77	28.25	-2.53
2	26 May 22	10:36	10:56	14.50	13.85	31.51	28.55	-2.96
3	26 May 22	10:57	11:17	14.60	13.90	31.71	28.66	-3.06
4	26 May 22	11:18	11:38	14.51	13.90	31.52	28.65	-2.87
5	26 May 22	11:39	11:59	14.43	13.88	31.37	28.64	-2.73
6	26 May 22	12:00	12:20	14.61	14.30	31.93	29.61	-2.33
7*	26 May 22	12:21	12:41	16.70	15.32	36.37	31.66	-4.71
8*	26 May 22	12:42	13:02	20.64	19.93	44.99	41.18	-3.81
9	26 May 22	13:03	13:23	19.49	20.31	42.55	41.91	-0.63
10	26 May 22	13:24	13:44	14.38	15.01	31.39	30.96	-0.43
11*	26 May 22	13:45	14:05	14.99	13.89	32.84	28.76	-4.08
12	26 May 22	14:06	14:26	14.75	14.42	32.32	29.92	-2.40
<b>Average</b>						32.79	30.57	-2.22
<b>Confidence Coefficient (CC)</b>								0.76
<b>Relative Accuracy (Compared with Emission Standard : 60 ppm) (%)</b>								4.96
<b>Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)</b>								≤ 10%

Reference Method : US EPA Method 7E

Remark: \* Sample with \* is a rejected data

<sup>1/</sup> Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with Emission Standard 60 ppm at 7%O2  
 RA Result is within Criteria

**Technical Management**

  
 Wichan Choonharat  
 Manager  
 ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

  
 Sarayuth Jitranont  
 Assistant General Manager  
 ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214526**

Date Received : May 27, 2022  
Date Reported : Jun 22, 2022  
Report Number : 2220840-1

Page 2 of 2

**Sample Number** : 2214526-1  
**Sampled Date** : May 26, 2022  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 12  
**Parameter** : O2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1	26 May 22	10:15	10:35	14.52	14.19	-0.33
2	26 May 22	10:36	10:56	14.50	14.16	-0.34
3	26 May 22	10:57	11:17	14.50	14.16	-0.34
4	26 May 22	11:18	11:38	14.50	14.15	-0.35
5	26 May 22	11:39	11:59	14.51	14.17	-0.34
6	26 May 22	12:00	12:20	14.54	14.19	-0.36
7	26 May 22	12:21	12:41	14.52	14.17	-0.34
8	26 May 22	12:42	13:02	14.52	14.17	-0.35
9*	26 May 22	13:03	13:23	14.53	14.17	-0.37
10*	26 May 22	13:24	13:44	14.53	14.16	-0.37
11*	26 May 22	13:45	14:05	14.56	14.18	-0.37
12	26 May 22	14:06	14:26	14.56	14.20	-0.36
<b>Average</b>				14.52	14.17	-0.35
<b>Confidence Coefficient (CC)</b>						-
<b>Relative Accuracy (Compared in Actual) (%)</b>						0.35
<b>Relative Accuracy Criteria <sup>1/</sup> (%)</b>						≤ 1%

Reference Method : US EPA Method 3A

Remark: \* Sample with \* is a rejected data

<sup>1/</sup> Relative Accuracy Criteria of O2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 3 (PS-3)

RA Result is within Criteria

**Sampled By :** Anuvat Mounpair

**Technical Management**



Wichan Choonharat

Manager

ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**



Sarayuth Jitranont

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-4702

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# ภาคผนวก ค.2

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คุณภาพอากาศในบรรยากาศ



## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214518**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2220835-1

Page 1 of 1

<b>Sample Description</b>	Air Quality
<b>Location</b>	บ้านคลองกลาง (GPS 47P 0721913, 1520772)
<b>Date Analysis Commenced</b>	Jun 04, 2022
<b>Condition of Sample</b>	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)
2214518-1	May 25 - May 26, 2022	0.025	0.010	755	30
2214518-2	May 26 - May 27, 2022	0.036	0.029	755	30
2214518-3	May 27 - May 28, 2022	0.032	0.026	755	30
2214518-4	May 28 - May 29, 2022	0.030	0.026	755	30
2214518-5	May 29 - May 30, 2022	0.043	0.030	755	30
2214518-6	May 30 - May 31, 2022	0.038	0.032	755	30
2214518-7	May 31 - Jun 01, 2022	0.035	0.025	755	30
<b>Guideline</b>		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 :** Bancha Namkhed

### Remark :

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

Approved by

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214515**

Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

Report Number: 2220828-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านคลองกลาง (GPS 47P 0721913, 1520772)  
**Parameter** Nitrogen dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

	2214515-1 May 25, 2022	2214515-2 May 26, 2022	2214515-3 May 27, 2022	2214515-4 May 28, 2022	2214515-5 May 29, 2022	2214515-6 May 30, 2022	2214515-7 May 31, 2022
Time							
02:00 PM - 03:00 PM	0.004	0.003	0.003	0.003	0.002	0.002	0.002
03:00 PM - 04:00 PM	0.001	0.003	0.003	0.002	0.003	0.001	0.002
04:00 PM - 05:00 PM	0.002	0.003	0.005	0.003	0.002	0.002	0.003
05:00 PM - 06:00 PM	0.003	0.004	0.004	0.005	0.002	0.002	0.003
06:00 PM - 07:00 PM	0.004	0.003	0.006	0.003	0.003	0.003	0.004
07:00 PM - 08:00 PM	0.004	0.003	0.014	0.004	0.004	0.004	0.006
08:00 PM - 09:00 PM	0.004	0.004	0.012	0.003	0.004	0.006	0.004
09:00 PM - 10:00 PM	0.004	0.009	0.010	0.004	0.005	0.009	0.004
10:00 PM - 11:00 PM	0.004	0.009	0.010	0.004	0.007	0.007	0.004
11:00 PM - 12:00 AM	<0.001	0.007	0.008	0.004	0.004	0.008	0.004
12:00 AM - 01:00 AM	0.002	0.006	0.008	0.006	0.006	0.006	0.004
01:00 AM - 02:00 AM	0.001	0.007	0.010	0.005	0.006	0.006	0.006
02:00 AM - 03:00 AM	0.001	0.008	0.010	0.002	0.006	0.004	0.006
03:00 AM - 04:00 AM	0.003	0.007	0.009	0.002	0.006	0.004	0.005
04:00 AM - 05:00 AM	0.005	0.008	0.009	0.002	0.008	0.003	0.004
05:00 AM - 06:00 AM	0.005	0.009	0.007	0.002	0.008	0.003	0.004
06:00 AM - 07:00 AM	0.005	0.009	0.008	0.002	0.010	0.004	0.002
07:00 AM - 08:00 AM	0.003	0.009	0.008	0.002	0.011	0.004	0.004
08:00 AM - 09:00 AM	0.003	0.008	0.005	0.003	0.006	0.004	0.004
09:00 AM - 10:00 AM	0.006	0.009	0.004	0.003	0.005	0.005	0.003
10:00 AM - 11:00 AM	0.002	0.005	0.003	0.002	0.005	0.004	0.003
11:00 AM - 12:00 PM	0.003	0.006	0.002	0.001	0.006	0.004	0.002
12:00 PM - 01:00 PM	0.001	0.006	0.002	0.002	0.006	0.003	0.002
01:00 PM - 02:00 PM	0.002	0.003	0.004	0.002	0.003	0.003	0.002
Average	0.003	0.006	0.007	0.003	0.005	0.004	0.004
1hr - Maximum	0.006	0.009	0.014	0.006	0.011	0.009	0.006
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214516**

Date Received : Jun 02, 2022

Date Reported : Jun 08, 2022

Report Number: 2220831-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านคลองกลาง (GPS 47P 0721913, 1520772)  
**Parameter** Sulfur Dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214516-1 May 25, 2022	2214516-2 May 26, 2022	2214516-3 May 27, 2022	2214516-4 May 28, 2022	2214516-5 May 29, 2022	2214516-6 May 30, 2022	2214516-7 May 31, 2022
02:00 PM - 03:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
03:00 PM - 04:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 PM - 05:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 PM - 06:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 PM - 07:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 PM - 08:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 PM - 10:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 PM - 11:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 PM - 12:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 AM - 01:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 AM - 02:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 AM - 03:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 AM - 04:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 AM - 05:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 AM - 06:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 AM - 07:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 AM - 08:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 AM - 09:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 AM - 10:00 AM	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 AM - 11:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 AM - 12:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 PM - 01:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 PM - 02:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Average	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1hr - Maximum	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001
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).

Reference Method : US EPA Method Part 53 and 58

The above results are valid only for the analyzed/tested 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) strongly recommends that this report is not reproduced except in full.

Approved by

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214518**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2340399-1

Page 1 of 1

<b>Sample Description</b>	Air Quality
<b>Location</b>	บ้านท่าไผ่ (GPS 47P 0721473, 1518740)
<b>Date Analysis Commenced</b>	Jun 04, 2022
<b>Condition of Sample</b>	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)
2214518-8	May 25 - May 26, 2022	0.031	0.016	755	30
2214518-9	May 26 - May 27, 2022	0.036	0.025	755	30
2214518-10	May 27 - May 28, 2022	0.032	0.022	755	30
2214518-11	May 28 - May 29, 2022	0.034	0.026	755	30
2214518-12	May 29 - May 30, 2022	0.049	0.034	755	30
2214518-13	May 30 - May 31, 2022	0.040	0.030	755	30
2214518-14	May 31 - Jun 01, 2022	0.040	0.026	755	30
<b>Guideline</b>		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 :** Bancha Namkhed

### Remark :

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

Approved by

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214515**

Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

Report Number: 2338611-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านท่าไข่ (GPS 47P 0721473, 1518740)  
**Parameter** Nitrogen dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

	2214515-8 May 25, 2022	2214515-9 May 26, 2022	2214515-10 May 27, 2022	2214515-11 May 28, 2022	2214515-12 May 29, 2022	2214515-13 May 30, 2022	2214515-14 May 31, 2022
Time							
01:00 PM - 02:00 PM	0.003	0.002	0.003	0.002	0.003	0.006	0.003
02:00 PM - 03:00 PM	0.004	0.003	0.004	0.002	0.002	0.005	0.002
03:00 PM - 04:00 PM	0.003	0.003	0.005	0.003	0.002	0.003	0.002
04:00 PM - 05:00 PM	0.004	0.004	0.006	0.003	0.002	0.004	0.005
05:00 PM - 06:00 PM	0.006	0.006	0.005	0.006	0.003	0.006	0.006
06:00 PM - 07:00 PM	0.006	0.007	0.009	0.006	0.004	0.006	0.006
07:00 PM - 08:00 PM	0.006	0.006	0.018	0.006	0.008	0.007	0.008
08:00 PM - 09:00 PM	0.009	0.014	0.017	0.006	0.007	0.011	0.006
09:00 PM - 10:00 PM	0.009	0.025	0.020	0.010	0.008	0.014	0.005
10:00 PM - 11:00 PM	0.006	0.020	0.019	0.008	0.011	0.011	0.005
11:00 PM - 12:00 AM	0.002	0.015	0.017	0.013	0.009	0.012	0.006
12:00 AM - 01:00 AM	0.004	0.011	0.017	0.010	0.008	0.012	0.007
01:00 AM - 02:00 AM	0.004	0.012	0.020	0.008	0.012	0.012	0.010
02:00 AM - 03:00 AM	0.002	0.010	0.019	0.004	0.014	0.007	0.010
03:00 AM - 04:00 AM	0.004	0.009	0.018	0.004	0.014	0.006	0.008
04:00 AM - 05:00 AM	0.008	0.010	0.015	0.003	0.009	0.006	0.007
05:00 AM - 06:00 AM	0.009	0.015	0.009	0.004	0.011	0.011	0.012
06:00 AM - 07:00 AM	0.008	0.019	0.011	0.004	0.015	0.007	0.007
07:00 AM - 08:00 AM	0.006	0.018	0.010	0.004	0.017	0.010	0.009
08:00 AM - 09:00 AM	0.007	0.015	0.009	0.011	0.015	0.012	0.012
09:00 AM - 10:00 AM	0.014	0.012	0.004	0.004	0.010	0.006	0.007
10:00 AM - 11:00 AM	0.004	0.005	0.002	0.002	0.007	0.004	0.005
11:00 AM - 12:00 PM	0.003	0.009	0.002	0.002	0.007	0.003	0.003
12:00 PM - 01:00 PM	0.002	0.008	0.002	0.003	0.007	0.003	0.004
Average	0.006	0.011	0.011	0.005	0.009	0.008	0.006
1hr - Maximum	0.014	0.025	0.020	0.013	0.017	0.014	0.012
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214516**

Date Received : Jun 02, 2022

Date Reported : Jun 08, 2022

Report Number: 2337292-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านท่าไข่ (GPS 47P 0721473, 1518740)  
**Parameter** Sulfur Dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214516-8 May 25, 2022	2214516-9 May 26, 2022	2214516-10 May 27, 2022	2214516-11 May 28, 2022	2214516-12 May 29, 2022	2214516-13 May 30, 2022	2214516-14 May 31, 2022
01:00 PM - 02:00 PM	0.002	0.002	0.002	0.002	0.003	0.003	0.003
02:00 PM - 03:00 PM	0.002	0.002	0.002	0.002	0.003	0.003	0.003
03:00 PM - 04:00 PM	0.002	0.002	0.002	0.002	0.003	0.003	0.003
04:00 PM - 05:00 PM	0.002	0.002	0.002	0.002	0.003	0.003	0.003
05:00 PM - 06:00 PM	0.002	0.002	0.002	0.002	0.003	0.003	0.003
06:00 PM - 07:00 PM	0.002	0.002	0.002	0.003	0.003	0.003	0.003
07:00 PM - 08:00 PM	0.002	0.002	0.002	0.004	0.003	0.003	0.003
08:00 PM - 09:00 PM	0.002	0.002	0.002	0.004	0.003	0.003	0.003
09:00 PM - 10:00 PM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
10:00 PM - 11:00 PM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
11:00 PM - 12:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
12:00 AM - 01:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
01:00 AM - 02:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
02:00 AM - 03:00 AM	0.002	0.002	0.002	0.003	0.003	0.003	0.002
03:00 AM - 04:00 AM	0.002	0.002	0.002	0.003	0.003	0.003	0.002
04:00 AM - 05:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
05:00 AM - 06:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
06:00 AM - 07:00 AM	0.002	0.002	0.002	0.003	0.002	0.002	0.002
07:00 AM - 08:00 AM	0.002	0.002	0.002	0.003	0.002	0.002	0.002
08:00 AM - 09:00 AM	0.002	0.002	0.002	0.003	0.002	0.002	0.002
09:00 AM - 10:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
10:00 AM - 11:00 AM	0.002	0.002	0.002	0.003	0.003	0.002	0.002
11:00 AM - 12:00 PM	0.002	0.002	0.002	0.003	0.003	0.003	0.002
12:00 PM - 01:00 PM	0.002	0.002	0.002	0.003	0.003	0.003	0.003
Average	0.002	0.002	0.002	0.003	0.003	0.003	0.003
1hr - Maximum	0.002	0.002	0.002	0.004	0.003	0.003	0.003
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).

Reference Method : US EPA Method Part 53 and 58

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214518**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2340402-1

Page 1 of 1

<b>Sample Description</b>	Air Quality
<b>Location</b>	บ้านคลองลาว (GPS 47P 0713923, 1517012)
<b>Date Analysis Commenced</b>	Jun 04, 2022
<b>Condition of Sample</b>	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)
2214518-15	May 25 - May 26, 2022	0.035	0.019	755	30
2214518-16	May 26 - May 27, 2022	0.040	0.027	755	30
2214518-17	May 27 - May 28, 2022	0.032	0.025	755	30
2214518-18	May 28 - May 29, 2022	0.043	0.031	755	30
2214518-19	May 29 - May 30, 2022	0.065	0.042	755	30
2214518-20	May 30 - May 31, 2022	0.049	0.036	755	30
2214518-21	May 31 - Jun 01, 2022	0.053	0.033	755	30
<b>Guideline</b>		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 :** Bancha Namkhed

### Remark :

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

Approved by

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214515**

Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

Report Number: 2338614-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านคลองลาว (GPS 47P 0713923, 1517012)  
**Parameter** Nitrogen dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214515-15 May 25, 2022	2214515-16 May 26, 2022	2214515-17 May 27, 2022	2214515-18 May 28, 2022	2214515-19 May 29, 2022	2214515-20 May 30, 2022	2214515-21 May 31, 2022
12:00 PM - 01:00 PM	0.005	0.001	0.006	0.003	0.001	0.006	0.002
01:00 PM - 02:00 PM	0.004	0.002	0.002	0.003	0.001	0.002	0.001
02:00 PM - 03:00 PM	0.002	0.001	0.002	0.003	0.002	0.001	0.001
03:00 PM - 04:00 PM	0.001	0.002	0.002	0.003	0.002	0.002	0.002
04:00 PM - 05:00 PM	0.001	0.002	0.002	0.008	0.003	0.002	0.002
05:00 PM - 06:00 PM	0.002	0.002	0.001	0.001	0.003	<0.001	0.002
06:00 PM - 07:00 PM	0.003	0.002	0.005	0.002	0.001	0.001	0.003
07:00 PM - 08:00 PM	0.002	0.001	0.013	0.002	0.003	0.002	0.009
08:00 PM - 09:00 PM	0.004	0.002	0.022	0.002	0.004	0.003	0.008
09:00 PM - 10:00 PM	0.004	0.004	0.018	0.002	0.004	0.005	0.010
10:00 PM - 11:00 PM	0.003	0.004	0.014	0.002	0.005	0.008	0.010
11:00 PM - 12:00 AM	0.001	0.007	0.011	0.002	0.002	0.008	0.014
12:00 AM - 01:00 AM	0.003	0.006	0.012	0.006	0.002	0.003	0.012
01:00 AM - 02:00 AM	0.007	0.007	0.015	0.006	0.003	0.003	0.012
02:00 AM - 03:00 AM	0.005	0.006	0.015	0.008	0.003	0.002	0.012
03:00 AM - 04:00 AM	0.005	0.006	0.015	0.006	0.005	0.003	0.010
04:00 AM - 05:00 AM	0.004	0.006	0.008	0.006	0.006	0.003	0.007
05:00 AM - 06:00 AM	0.007	0.006	0.008	0.008	0.006	0.006	0.008
06:00 AM - 07:00 AM	0.010	0.008	0.003	0.010	0.007	0.007	0.010
07:00 AM - 08:00 AM	0.011	0.010	0.005	0.010	0.011	0.008	0.013
08:00 AM - 09:00 AM	0.009	0.012	0.006	0.008	0.017	0.010	0.014
09:00 AM - 10:00 AM	0.012	0.009	0.001	0.002	0.006	0.005	0.007
10:00 AM - 11:00 AM	<0.001	0.002	0.002	0.002	0.006	0.004	0.004
11:00 AM - 12:00 PM	<0.001	0.006	0.004	<0.001	0.008	0.004	0.002
Average	0.004	0.005	0.008	0.004	0.005	0.004	0.007
1hr - Maximum	0.012	0.012	0.022	0.010	0.017	0.010	0.014
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214516**

Date Received : Jun 02, 2022

Date Reported : Jun 08, 2022

Report Number: 2337295-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านคลองลาว (GPS 47P 0713923, 1517012)  
**Parameter** Sulfur Dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214516-15 May 25, 2022	2214516-16 May 26, 2022	2214516-17 May 27, 2022	2214516-18 May 28, 2022	2214516-19 May 29, 2022	2214516-20 May 30, 2022	2214516-21 May 31, 2022
12:00 PM - 01:00 PM	0.002	0.002	0.004	0.004	0.002	0.002	0.002
01:00 PM - 02:00 PM	0.002	0.002	0.005	0.003	0.002	0.002	0.002
02:00 PM - 03:00 PM	0.002	0.002	0.004	0.003	0.002	0.002	0.002
03:00 PM - 04:00 PM	0.002	0.002	0.004	0.002	0.001	0.002	0.002
04:00 PM - 05:00 PM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
05:00 PM - 06:00 PM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
06:00 PM - 07:00 PM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
07:00 PM - 08:00 PM	0.002	0.002	0.003	0.002	0.002	0.002	0.002
08:00 PM - 09:00 PM	0.002	0.002	0.003	0.002	0.002	0.002	0.002
09:00 PM - 10:00 PM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
10:00 PM - 11:00 PM	0.002	0.002	0.003	0.002	0.002	0.002	0.002
11:00 PM - 12:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
12:00 AM - 01:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
01:00 AM - 02:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
02:00 AM - 03:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
03:00 AM - 04:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
04:00 AM - 05:00 AM	0.002	0.002	0.003	0.002	0.001	0.002	0.002
05:00 AM - 06:00 AM	0.002	0.002	0.003	0.003	0.002	0.002	0.002
06:00 AM - 07:00 AM	0.002	0.002	0.004	0.003	0.002	0.002	0.002
07:00 AM - 08:00 AM	0.002	0.002	0.004	0.003	0.002	0.002	0.002
08:00 AM - 09:00 AM	0.002	0.002	0.004	0.003	0.002	0.002	0.002
09:00 AM - 10:00 AM	0.002	0.002	0.004	0.002	0.002	0.002	0.002
10:00 AM - 11:00 AM	0.002	0.002	0.004	0.002	0.002	0.002	0.002
11:00 AM - 12:00 PM	0.002	0.002	0.004	0.002	0.001	0.002	0.002
Average	0.002	0.002	0.003	0.002	0.001	0.002	0.002
1hr - Maximum	0.002	0.002	0.005	0.004	0.002	0.002	0.002
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).

Reference Method : US EPA Method Part 53 and 58

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214518**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2340403-1

Page 1 of 1

<b>Sample Description</b>	Air Quality
<b>Location</b>	บ้านบางปลาน้ำ (GPS 47P 0714336, 1518888)
<b>Date Analysis Commenced</b>	Jun 04, 2022
<b>Condition of Sample</b>	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)
2214518-22	May 25 - May 26, 2022	0.042	0.022	755	30
2214518-23	May 26 - May 27, 2022	0.035	0.020	755	30
2214518-24	May 27 - May 28, 2022	0.032	0.019	755	30
2214518-25	May 28 - May 29, 2022	0.031	0.021	755	30
2214518-26	May 29 - May 30, 2022	0.048	0.026	755	30
2214518-27	May 30 - May 31, 2022	0.040	0.028	755	30
2214518-28	May 31 - Jun 01, 2022	0.039	0.025	755	30
<b>Guideline</b>		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 :** Bancha Namkhed

### Remark :

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

Approved by

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214515**

Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

Report Number: 2338615-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านบางปลาญัก (GPS 47P 0714336, 1518888)  
**Parameter** Nitrogen dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214515-22 May 25, 2022	2214515-23 May 26, 2022	2214515-24 May 27, 2022	2214515-25 May 28, 2022	2214515-26 May 29, 2022	2214515-27 May 30, 2022	2214515-28 May 31, 2022
11:00 AM - 12:00 PM	0.001	0.002	0.007	0.002	0.002	0.008	0.005
12:00 PM - 01:00 PM	0.002	0.002	0.005	0.002	0.003	0.006	0.004
01:00 PM - 02:00 PM	0.003	0.002	0.002	0.002	0.002	0.003	0.004
02:00 PM - 03:00 PM	0.003	0.003	0.004	0.002	0.002	0.003	0.003
03:00 PM - 04:00 PM	0.002	0.003	0.004	0.002	0.002	0.005	0.002
04:00 PM - 05:00 PM	0.002	0.003	0.004	0.001	0.002	0.006	0.006
05:00 PM - 06:00 PM	0.003	0.002	0.003	0.002	0.002	0.004	0.004
06:00 PM - 07:00 PM	0.003	0.002	0.004	0.002	0.002	0.002	0.005
07:00 PM - 08:00 PM	0.003	0.002	0.008	0.005	0.002	0.002	0.008
08:00 PM - 09:00 PM	0.004	0.003	0.006	0.003	0.002	0.004	0.007
09:00 PM - 10:00 PM	0.004	0.004	0.008	0.006	0.003	0.006	0.008
10:00 PM - 11:00 PM	0.003	0.005	0.006	0.011	0.004	0.009	0.008
11:00 PM - 12:00 AM	0.002	0.006	0.005	0.009	0.003	0.009	0.009
12:00 AM - 01:00 AM	0.003	0.006	0.006	0.006	0.005	0.008	0.008
01:00 AM - 02:00 AM	0.004	0.006	0.010	0.007	0.006	0.004	0.008
02:00 AM - 03:00 AM	0.003	0.006	0.011	0.005	0.005	0.004	0.008
03:00 AM - 04:00 AM	0.003	0.005	0.009	0.004	0.005	0.004	0.007
04:00 AM - 05:00 AM	0.003	0.004	0.006	0.004	0.005	0.004	0.005
05:00 AM - 06:00 AM	0.003	0.004	0.004	0.005	0.006	0.004	0.002
06:00 AM - 07:00 AM	0.003	0.005	0.004	0.005	0.006	0.004	0.002
07:00 AM - 08:00 AM	0.004	0.006	0.005	0.004	0.008	0.004	0.003
08:00 AM - 09:00 AM	0.004	0.008	0.006	0.005	0.006	0.005	0.004
09:00 AM - 10:00 AM	0.005	0.008	0.003	0.004	0.006	0.006	0.006
10:00 AM - 11:00 AM	0.002	0.004	0.002	0.002	0.007	0.006	0.004
Average	0.003	0.004	0.005	0.004	0.004	0.005	0.005
1hr - Maximum	0.005	0.008	0.011	0.011	0.008	0.009	0.009
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214516**

Date Received : Jun 02, 2022

Date Reported : Jun 08, 2022

Report Number: 2337297-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านบางปลาญิก (GPS 47P 0714336, 1518888)  
**Parameter** Sulfur Dioxide (ppm)  
**Measurement Date** May 25, 2022 - Jun 01, 2022  
**Measurement by** Bancha Namkhed

Time	2214516-22 May 25, 2022	2214516-23 May 26, 2022	2214516-24 May 27, 2022	2214516-25 May 28, 2022	2214516-26 May 29, 2022	2214516-27 May 30, 2022	2214516-28 May 31, 2022
11:00 AM - 12:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 PM - 01:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 PM - 02:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 PM - 03:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 PM - 04:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 PM - 05:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 PM - 06:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 PM - 07:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 PM - 08:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 PM - 10:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 PM - 11:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 PM - 12:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 AM - 01:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 AM - 02:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 AM - 03:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 AM - 04:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 AM - 05:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 AM - 06:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 AM - 07:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 AM - 08:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 AM - 09:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 AM - 10:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 AM - 11:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Average	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1hr - Maximum	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
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).

Reference Method : US EPA Method Part 53 and 58

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O** : สัญญาเลขที่ 4600001497

**Project Name** : Monitoring EIA

**Project Location** : GNNK

**Lot ID** : 2214521

Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

Report Number : 2220836-1

Page 1 of 2

**Sample Number** : 2214521-1 to 7  
**Parameter** : Wind Speed / Wind Direction  
**Location** : พื้นที่โครงการ (GPS 47P 0718066, 1519266)  
**Sampling Date** : May 25 - Jun 01, 2022  
**Sampling by** : Bancha Namkhed

Time	May 25 - May 26, 2022			May 26 - May 27, 2022			May 27 - May 28, 2022			May 28 - May 29, 2022			May 29 - May 30, 2022			May 30 - May 31, 2022			May 31 - Jun 01, 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)	
11:00 AM - 12:00 PM	2.0	254.0	WSW	3.3	180.0	S	3.6	282.0	WNW	3.7	210.0	SSW	2.3	242.0	WSW	2.2	223.0	SW	1.4	211.0	SSW
12:00 PM - 01:00 PM	2.9	202.0	SSW	2.8	217.0	SW	1.8	307.0	NW	3.2	222.0	SW	4.3	201.0	SSW	3.5	208.0	SSW	2.1	184.0	S
01:00 PM - 02:00 PM	2.8	176.0	S	3.2	234.0	SW	5.8	276.0	W	2.7	217.0	SW	3.1	200.0	SSW	3.0	164.0	SSE	0.7	271.0	W
02:00 PM - 03:00 PM	3.4	187.0	S	2.5	308.0	NW	2.1	299.0	WNW	2.0	188.0	S	3.1	217.0	SW	2.8	234.0	SW	2.5	196.0	SSW
03:00 PM - 04:00 PM	3.5	200.0	SSW	2.7	222.0	SW	3.0	162.0	SSE	2.8	225.0	SW	4.5	169.0	S	3.7	208.0	SSW	2.4	172.0	S
04:00 PM - 05:00 PM	2.0	229.0	SW	6.2	209.0	SSW	6.5	207.0	SSW	2.3	206.0	SSW	5.0	164.0	SSE	1.7	171.0	S	2.8	251.0	WSW
05:00 PM - 06:00 PM	2.4	198.0	SSW	2.3	199.0	SSW	1.0	214.0	SW	2.7	194.0	SSW	3.2	190.0	S	2.4	170.0	S	2.7	308.0	NW
06:00 PM - 07:00 PM	2.4	214.0	SW	5.2	222.0	SW	2.8	194.0	SSW	3.9	188.0	S	2.5	198.0	SSW	4.1	186.0	S	0.0	-	-
07:00 PM - 08:00 PM	1.0	181.0	S	1.6	157.0	SSE	0.9	208.0	SSW	1.1	253.0	WSW	5.6	186.0	S	1.5	150.0	SSE	0.0	-	-
08:00 PM - 09:00 PM	2.1	212.0	SSW	1.0	169.0	S	0.9	180.0	S	0.5	159.0	SSE	2.9	223.0	SW	0.0	-	-	0.0	-	-
09:00 PM - 10:00 PM	2.6	201.0	SSW	1.2	225.0	SW	3.1	197.0	SSW	1.2	170.0	S	1.4	229.0	SW	1.7	111.0	ESE	0.0	-	-
10:00 PM - 11:00 PM	1.7	357.0	N	1.5	249.0	WSW	1.3	211.0	SSW	0.1	-	-	1.4	200.0	SSW	1.3	146.0	SE	0.1	-	-
11:00 PM - 12:00 AM	0.8	289.0	WNW	1.6	245.0	WSW	0.1	-	-	0.0	-	-	1.2	151.0	SSE	1.5	155.0	SSE	0.0	-	-
12:00 AM - 01:00 AM	1.3	93.0	E	1.2	226.0	SW	1.3	162.0	SSE	0.6	76.0	ENE	2.0	164.0	SSE	0.0	-	-	0.2	-	-
01:00 AM - 02:00 AM	0.5	75.0	ENE	1.1	219.0	SW	1.6	180.0	S	0.6	95.0	E	0.1	-	-	0.0	-	-	1.0	92.0	E
02:00 AM - 03:00 AM	0.6	101.0	E	1.4	224.0	SW	1.7	165.0	SSE	1.4	83.0	E	0.9	204.0	SSW	0.2	-	-	0.9	93.0	E
03:00 AM - 04:00 AM	0.0	-	-	1.7	215.0	SW	1.1	236.0	SW	0.8	108.0	ESE	1.7	258.0	WSW	0.0	-	-	1.5	221.0	SW
04:00 AM - 05:00 AM	0.0	-	-	1.2	210.0	SSW	0.9	207.0	SSW	0.0	-	-	1.1	278.0	W	0.0	-	-	0.0	-	-
05:00 AM - 06:00 AM	0.2	-	-	0.8	249.0	WSW	0.8	212.0	SSW	0.6	77.0	ENE	1.0	259.0	W	0.0	-	-	0.7	94.0	E
06:00 AM - 07:00 AM	1.0	65.0	ENE	0.6	236.0	SW	1.2	226.0	SW	0.0	-	-	1.5	278.0	W	0.3	144.0	SE	0.1	-	-
07:00 AM - 08:00 AM	0.7	67.0	ENE	1.5	205.0	SSW	1.8	188.0	S	1.7	165.0	SSE	0.0	-	-	1.3	245.0	WSW	0.0	-	-
08:00 AM - 09:00 AM	0.7	137.0	SE	2.4	215.0	SW	4.3	221.0	SW	1.2	220.0	SW	1.9	229.0	SW	0.9	245.0	WSW	1.6	151.0	SSE
09:00 AM - 10:00 AM	3.1	255.0	WSW	2.2	223.0	SW	3.1	208.0	SSW	2.2	236.0	SW	2.3	224.0	SW	2.1	301.0	WNW	1.2	165.0	SSE
10:00 AM - 11:00 AM	3.5	227.0	SW	2.7	264.0	W	3.5	198.0	SSW	3.1	191.0	S	5.1	285.0	WNW	2.5	215.0	SW	2.0	160.0	SSE

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jittrantont  
Assistant General Manager



## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O** : สัญญาเลขที่ 4600001497

**Project Name** : Monitoring EIA

**Project Location** : GNNK

**Lot ID** : 2214521

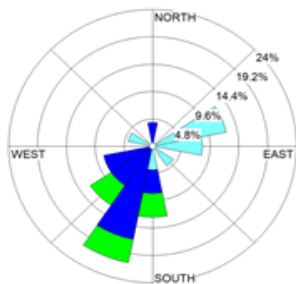
Date Received : Jun 02, 2022

Date Reported : Jun 09, 2022

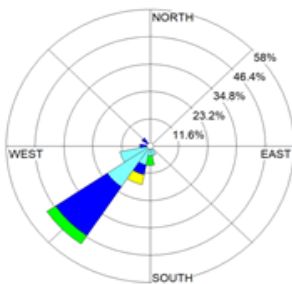
Report Number : 2220836-1

Page 2 of 2

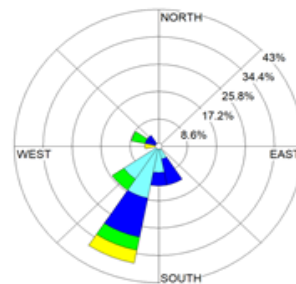
### Wind Rose



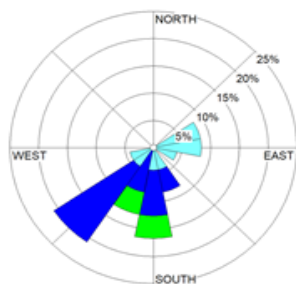
Date : May 25-26, 2022



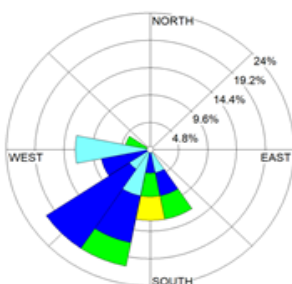
Date : May 26-27, 2022



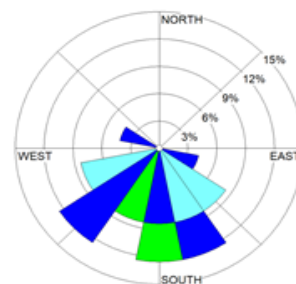
Date : May 27-28, 2022



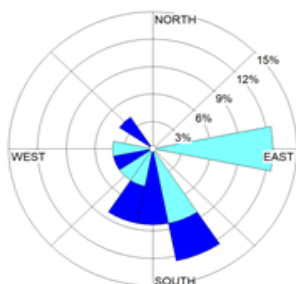
Date : May 28-29, 2022



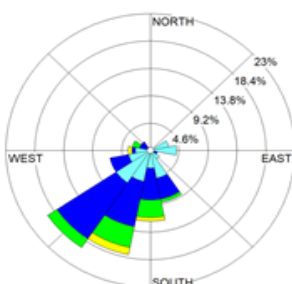
Date : May 29-30, 2022



Date : May 30-31, 2022



Date : May 31-01, 2022



Date : May 25-Jun 01, 2022

WS(m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	2.38
3.3-5.5	10.13
1.7-3.3	35.71
0.3-1.7	35.71
Calms	16.07

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Approved by

Sarayuth Jitranont  
Assistant General Manager

## ภาคผนวก ค.3

คุณภาพอากาศจากปล่องระบายอากาศ





## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214528**  
Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number : 2220841-1

Page 1 of 1

**Sample Number** 2214528-1  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Measurement Date** May 27, 2022

### Stack Description

Ambient Temperature	32 °C	Diameter	3.00 m	Oxygen	14.23 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	4.01 %
Type of Process	Combustion	Stack Temperature	95 °C	Gas Velocity	15.43 m/s
Type of Fuel	Natural Gas	Moisture	9.44 %	Flow Rate	286036 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O <sub>2</sub>	at 7% O <sub>2</sub>	at Actual O <sub>2</sub>	at 7% O <sub>2</sub>
1	10:30 AM - 10:50 AM	14.23	4.01	12.71	26.49	0.06	0.12
2	10:51 AM - 11:11 AM	14.23	4.02	12.95	26.99	0.06	0.13
3	11:12 AM - 11:32 AM	14.24	4.01	12.46	25.99	0.06	0.12
Average (ppm)		14.23	4.01	12.70	26.49	0.06	0.12
Guideline <sup>1/</sup> (ppm)				-	60	-	6
Guideline <sup>2/</sup> (ppm)				-	120	-	20
Guideline <sup>3/</sup> (ppm)				-	120	-	20
Result (mg/m <sup>3</sup> )				23.90	49.83	0.16	0.32
Emission Rate at Actual O <sub>2</sub> (g/s)				1.8991		0.0123	
Guideline <sup>1/</sup> (g/s)				6.18		0.86	
Method				US EPA Method 7E		US EPA Method 6C	

**Sampled By :** Anuvat Mounpai

**Guideline :** <sup>1/</sup> Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

<sup>2/</sup> Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).

<sup>3/</sup> Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Technical Management**

Wichan Choonharat  
Manager

ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jittrantont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214528**  
Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number : 2220841-1

Page 1 of 1

**Sample Number** : 2214528-1  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 11  
**Measurement Date** : May 27, 2022

### Stack Description

Ambient Temperature	32 °C	Diameter	3.00 m	Oxygen	14.23 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	4.01 %
Type of Process	Combustion	Stack Temperature	95 °C	Gas Velocity	15.43 m/s
Type of Fuel	Natural Gas	Moisture	9.44 %	Flow Rate	286036 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Carbon Monoxide (ppm)	
				at Actual O <sub>2</sub>	At 7% O <sub>2</sub>
1	10:30 AM - 10:50 AM	14.23	4.01	0.32	0.67
2	10:51 AM - 11:11 AM	14.23	4.02	0.36	0.76
3	11:12 AM - 11:32 AM	14.24	4.01	0.35	0.73
Average (ppm)		14.23	4.01	0.34	0.72
Guideline (ppm)				-	690
Result (mg/m <sup>3</sup> )				0.39	0.82
Emission Rate at Actual O <sub>2</sub> (g/s)				0.0313	
Method				US EPA Method 10	

**Sampled By :** Anuvat Moungpai  
**Guideline :** Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

**Technical Management**

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jittrantont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214535**

Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number: 2220844-1

Page 1 of 2

**Sample Number** 2214535-1  
**Sampled Date** May 27, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish

### Stack Description

Ambient Pressure	755	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	4.0	%
Type of Process	Combustion		Stack Temperature	95.0	°C	Gas Velocity	15.5	m/s
Type of Fuel	Natural Gas		Moisture	9.46	%	Flow Rate (Actual O2)	286602	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O <sub>2</sub>	at 14.2 % O <sub>2</sub>				
Air Testing										
Total Suspended Particulate	10:30 AM - 11:18 AM	mg/m3	-	0.5	<0.5	<0.5	60	30	US EPA, Method 5	Bangkok

### Guideline :

Guideline (1) Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).  
Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.  
Guideline (2) Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

Technical Management

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)  
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

*Kanokkorn Anek*

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

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214535**

Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number: 2220844-1

Page 2 of 2

**Sample Number** 2214535-1  
**Sampled Date** May 27, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 11  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish

### Stack Description

Ambient Pressure	755	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	4.0	%
Type of Process	Combustion		Stack Temperature	95.0	°C	Gas Velocity	15.5	m/s
Type of Fuel	Natural Gas		Moisture	9.46	%	Flow Rate (Actual O2)	286602	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	10:30 AM - 11:18 AM	g/s	-	-	<0.04	-	-	Calculated	Bangkok

**Sampled By :** Chawalit Wongchan

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.

**Technical Management**

*Saranya C.*  
Saranya Chalermthamrong  
Scientist (4)  
ทะเบียนเลขที่ ว-204-จ-4717

**Approved by**

*Kanokkorn Anek*  
Kanokkorn Anek  
Senior Manager  
ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214529**  
Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number : 2220842-1

Page 1 of 1

**Sample Number** 2214529-1  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Measurement Date** May 26, 2022

### Stack Description

Ambient Temperature	32 °C	Diameter	3.00 m	Oxygen	14.16 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	3.97 %
Type of Process	Combustion	Stack Temperature	100 °C	Gas Velocity	18.80 m/s
Type of Fuel	Natural Gas	Moisture	7.62 %	Flow Rate	350677 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O <sub>2</sub>	at 7% O <sub>2</sub>	at Actual O <sub>2</sub>	at 7% O <sub>2</sub>
1	11:00 AM - 11:20 AM	14.16	3.97	13.91	28.67	0.02	0.05
2	11:21 AM - 11:41 AM	14.15	3.97	13.89	28.61	0.03	0.06
3	11:42 AM - 12:02 PM	14.17	3.97	13.89	28.67	0.03	0.07
Average (ppm)		14.16	3.97	13.89	28.65	0.03	0.06
Guideline <sup>1/</sup> (ppm)				-	60	-	6
Guideline <sup>2/</sup> (ppm)				-	120	-	20
Guideline <sup>3/</sup> (ppm)				-	120	-	20
Result (mg/m <sup>3</sup> )				26.14	53.90	0.08	0.16
Emission Rate at Actual O <sub>2</sub> (g/s)				2.5464		0.0075	
Guideline <sup>1/</sup> (g/s)				6.18		0.86	
Method				US EPA Method 7E		US EPA Method 6C	

**Sampled By :** Anuvat Mounpai

**Guideline :** <sup>1/</sup> Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

<sup>2/</sup> Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).

<sup>3/</sup> Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

**Technical Management**

Wichan Choonharat  
Manager

ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jittrantont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214529**  
Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number : 2220842-1

Page 1 of 1

**Sample Number** : 2214529-1  
**Sample Description** : Emission from Stationary Source  
**Location** : ปล่อง HRSG 12  
**Measurement Date** : May 26, 2022

### Stack Description

Ambient Temperature	32 °C	Diameter	3.00 m	Oxygen	14.16 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	3.97 %
Type of Process	Combustion	Stack Temperature	100 °C	Gas Velocity	18.80 m/s
Type of Fuel	Natural Gas	Moisture	7.62 %	Flow Rate	350677 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Carbon Monoxide (ppm)	
				at Actual O <sub>2</sub>	At 7% O <sub>2</sub>
1	11:00 AM - 11:20 AM	14.16	3.97	0.55	1.13
2	11:21 AM - 11:41 AM	14.15	3.97	0.57	1.17
3	11:42 AM - 12:02 PM	14.17	3.97	0.51	1.06
Average (ppm)		14.16	3.97	0.54	1.12
Guideline (ppm)				-	690
Result (mg/m <sup>3</sup> )				0.62	1.28
Emission Rate at Actual O <sub>2</sub> (g/s)				0.0605	
Method				US EPA Method 10	

**Sampled By :** Anuvat Moungpai  
**Guideline :** Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

**Technical Management**

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ค-6113

**Approved by**

Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ค-4702

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214536**

Date Received : May 27, 2022

Date Reported : Jun 06, 2022

Report Number: 2220846-1

Page 1 of 2

**Sample Number** 2214536-1  
**Sampled Date** May 26, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish

### Stack Description

Ambient Pressure	755	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	4.0	%
Type of Process	Combustion		Stack Temperature	100	°C	Gas Velocity	18.8	m/s
Type of Fuel	Natural Gas		Moisture	7.61	%	Flow Rate (Actual O2)	351225	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O <sub>2</sub>	at 14.2 % O <sub>2</sub>				
Air Testing										
Total Suspended Particulate	11:00 AM - 11:48 AM	mg/m3	-	0.5	<0.5	<0.5	60	30	US EPA, Method 5	Bangkok

### Guideline :

- Guideline (1) Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).  
Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.  
Guideline (2) Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

Technical Management

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)  
ทะเบียนเลขที่ ว-204-จ-4717

Approved by

*Kanokkorn Anek*

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

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214536**

Date Received : May 27, 2022  
Date Reported : Jun 06, 2022  
Report Number: 2220846-1

Page 2 of 2

**Sample Number** 2214536-1  
**Sampled Date** May 26, 2022  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง HRSG 12  
**Date Analysis Commenced** May 28, 2022  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish

### Stack Description

Ambient Pressure	755	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	32.0	°C	Shape	Circle		Carbon Dioxide	4.0	%
Type of Process	Combustion		Stack Temperature	100	°C	Gas Velocity	18.8	m/s
Type of Fuel	Natural Gas		Moisture	7.61	%	Flow Rate (Actual O2)	351225	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	11:00 AM - 11:48 AM	g/s	-	-	<0.05	-	-	Calculated	Bangkok

**Sampled By :** Chawalit Wongchan

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.

**Technical Management**

*Saranya C.*  
Saranya Chalermthamrong  
Scientist (4)  
ทะเบียนเลขที่ ว-204-จ-4717

**Approved by**

*Kanokkorn Anek*  
Kanokkorn Anek  
Senior Manager  
ทะเบียนเลขที่ ว-204-ค-6111

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S:\Reports\\_Air Stack\_O2\_2GL.rpt (12:25PM)

# ภาคผนวก ค.4

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ระดับเสียง



## Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2214539

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2339247-1

Page 1 of 1

Sample Number 2214539-1  
Parameter Noise (Leq 24 hrs.)  
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
Measurement Date May 25 - May 26, 2022  
Measurement by Bancha Namkhed  
Sound Level meter Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	57.2	80.4	44.8
03:00 PM - 04:00 PM	52.6	81.9	44.3
04:00 PM - 05:00 PM	50.5	77.0	44.6
05:00 PM - 06:00 PM	53.1	74.1	44.4
06:00 PM - 07:00 PM	49.3	71.1	42.5
07:00 PM - 08:00 PM	49.2	75.5	42.4
08:00 PM - 09:00 PM	47.6	71.6	43.2
09:00 PM - 10:00 PM	65.4	97.6	46.5
10:00 PM - 11:00 PM	57.7	88.7	45.6
11:00 PM - 12:00 AM	48.0	66.7	46.4
12:00 AM - 01:00 AM	48.0	59.8	46.0
01:00 AM - 02:00 AM	48.1	63.5	46.0
02:00 AM - 03:00 AM	50.9	74.8	48.4
03:00 AM - 04:00 AM	52.4	77.8	48.3
04:00 AM - 05:00 AM	49.8	71.2	47.3
05:00 AM - 06:00 AM	53.4	78.7	47.6
06:00 AM - 07:00 AM	54.7	84.7	47.0
07:00 AM - 08:00 AM	53.3	77.4	44.0
08:00 AM - 09:00 AM	55.4	84.1	44.5
09:00 AM - 10:00 AM	55.7	81.7	45.7
10:00 AM - 11:00 AM	53.0	77.9	46.6
11:00 AM - 12:00 PM	61.1	82.6	45.6
12:00 PM - 01:00 PM	49.5	76.8	42.9
01:00 PM - 02:00 PM	57.5	88.6	42.8

Leq Average 24 hrs. (dB(A)) 56.0  
Lmax (dB(A)) 97.6  
L90 (dB(A)) 45.6  
Ldn (dB(A)) 60.1  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong  
Scientist (4)

Approved by

Supot S.

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339248-1

Page 1 of 1

**Sample Number** 2214539-2  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 26 - May 27, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.9	70.4	45.2
03:00 PM - 04:00 PM	53.7	82.3	45.2
04:00 PM - 05:00 PM	56.2	77.4	45.9
05:00 PM - 06:00 PM	63.7	77.7	47.9
06:00 PM - 07:00 PM	50.2	70.5	45.2
07:00 PM - 08:00 PM	51.2	80.5	45.2
08:00 PM - 09:00 PM	52.5	79.7	49.8
09:00 PM - 10:00 PM	51.0	71.2	49.6
10:00 PM - 11:00 PM	59.1	84.1	50.5
11:00 PM - 12:00 AM	52.4	69.8	50.8
12:00 AM - 01:00 AM	57.2	91.8	49.3
01:00 AM - 02:00 AM	50.7	74.8	49.3
02:00 AM - 03:00 AM	51.9	71.0	50.2
03:00 AM - 04:00 AM	51.6	59.6	50.1
04:00 AM - 05:00 AM	49.2	62.9	46.6
05:00 AM - 06:00 AM	53.0	76.1	47.8
06:00 AM - 07:00 AM	54.0	86.6	47.1
07:00 AM - 08:00 AM	52.5	83.2	49.5
08:00 AM - 09:00 AM	51.1	74.2	49.1
09:00 AM - 10:00 AM	51.9	69.6	50.4
10:00 AM - 11:00 AM	52.0	74.0	46.2
11:00 AM - 12:00 PM	54.6	77.7	46.8
12:00 PM - 01:00 PM	53.1	78.7	43.9
01:00 PM - 02:00 PM	52.3	75.6	46.7

Leq Average 24 hrs. (dB(A)) 54.9  
Lmax (dB(A)) 91.8  
L90 (dB(A)) 47.8  
Ldn (dB(A)) 60.9  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339249-1

Page 1 of 1

**Sample Number** 2214539-3  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 27 - May 28, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	52.5	85.0	45.8
03:00 PM - 04:00 PM	57.9	80.1	47.0
04:00 PM - 05:00 PM	52.5	82.9	47.0
05:00 PM - 06:00 PM	52.7	79.1	46.3
06:00 PM - 07:00 PM	50.5	78.7	46.1
07:00 PM - 08:00 PM	51.2	79.0	47.9
08:00 PM - 09:00 PM	50.1	72.9	47.9
09:00 PM - 10:00 PM	60.1	90.2	47.3
10:00 PM - 11:00 PM	49.7	72.2	46.8
11:00 PM - 12:00 AM	51.7	80.0	46.3
12:00 AM - 01:00 AM	55.4	87.4	44.4
01:00 AM - 02:00 AM	46.2	68.9	44.3
02:00 AM - 03:00 AM	47.8	70.9	45.1
03:00 AM - 04:00 AM	53.7	82.2	43.7
04:00 AM - 05:00 AM	51.1	80.6	44.3
05:00 AM - 06:00 AM	50.9	68.1	45.8
06:00 AM - 07:00 AM	53.9	77.6	46.2
07:00 AM - 08:00 AM	53.0	77.2	45.2
08:00 AM - 09:00 AM	55.9	82.1	45.9
09:00 AM - 10:00 AM	50.9	70.5	45.5
10:00 AM - 11:00 AM	51.3	71.2	45.4
11:00 AM - 12:00 PM	50.8	76.3	44.7
12:00 PM - 01:00 PM	52.9	82.2	44.9
01:00 PM - 02:00 PM	50.8	79.7	44.6

Leq Average 24 hrs. (dB(A)) 53.4  
Lmax (dB(A)) 90.2  
L90 (dB(A)) 45.8  
Ldn (dB(A)) 58.8  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339250-1

Page 1 of 1

**Sample Number** 2214539-4  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 28 - May 29, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	54.0	83.3	45.8
03:00 PM - 04:00 PM	56.9	82.4	46.2
04:00 PM - 05:00 PM	54.9	84.2	46.7
05:00 PM - 06:00 PM	57.1	80.1	51.1
06:00 PM - 07:00 PM	52.5	72.4	46.3
07:00 PM - 08:00 PM	49.7	65.9	45.9
08:00 PM - 09:00 PM	54.0	72.9	50.9
09:00 PM - 10:00 PM	53.8	72.8	51.8
10:00 PM - 11:00 PM	54.4	72.6	52.9
11:00 PM - 12:00 AM	59.1	85.2	54.2
12:00 AM - 01:00 AM	63.4	85.1	54.3
01:00 AM - 02:00 AM	54.8	78.2	53.1
02:00 AM - 03:00 AM	53.9	61.0	52.1
03:00 AM - 04:00 AM	51.2	71.2	46.1
04:00 AM - 05:00 AM	50.7	71.5	45.7
05:00 AM - 06:00 AM	52.0	74.0	46.2
06:00 AM - 07:00 AM	54.6	77.7	46.8
07:00 AM - 08:00 AM	53.1	78.7	43.9
08:00 AM - 09:00 AM	58.9	85.5	46.1
09:00 AM - 10:00 AM	55.3	72.9	43.6
10:00 AM - 11:00 AM	57.0	84.7	43.6
11:00 AM - 12:00 PM	57.6	84.6	43.5
12:00 PM - 01:00 PM	51.1	80.8	43.0
01:00 PM - 02:00 PM	50.0	79.3	42.9

Leq Average 24 hrs. (dB(A)) 56.0  
Lmax (dB(A)) 85.5  
L90 (dB(A)) 46.2  
Ldn (dB(A)) 63.2  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

Approved by

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339251-1

Page 1 of 1

**Sample Number** 2214539-5  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 29 - May 30, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.8	83.3	44.8
03:00 PM - 04:00 PM	52.1	80.6	46.1
04:00 PM - 05:00 PM	50.1	73.7	45.5
05:00 PM - 06:00 PM	53.4	81.5	45.2
06:00 PM - 07:00 PM	48.7	69.7	44.8
07:00 PM - 08:00 PM	51.4	80.1	46.3
08:00 PM - 09:00 PM	49.5	72.7	47.6
09:00 PM - 10:00 PM	49.9	70.4	48.3
10:00 PM - 11:00 PM	52.5	83.2	49.5
11:00 PM - 12:00 AM	51.1	74.2	49.1
12:00 AM - 01:00 AM	51.9	69.6	50.4
01:00 AM - 02:00 AM	53.4	70.9	52.0
02:00 AM - 03:00 AM	51.5	73.3	47.4
03:00 AM - 04:00 AM	48.0	73.6	43.7
04:00 AM - 05:00 AM	62.9	97.1	44.5
05:00 AM - 06:00 AM	50.9	72.0	44.3
06:00 AM - 07:00 AM	50.7	73.4	43.4
07:00 AM - 08:00 AM	50.2	73.9	42.9
08:00 AM - 09:00 AM	50.5	73.9	43.2
09:00 AM - 10:00 AM	49.6	68.5	42.9
10:00 AM - 11:00 AM	48.5	68.8	43.1
11:00 AM - 12:00 PM	50.6	80.9	44.2
12:00 PM - 01:00 PM	51.9	80.3	44.0
01:00 PM - 02:00 PM	51.4	79.7	45.9

Leq Average 24 hrs. (dB(A)) 53.1  
Lmax (dB(A)) 97.1  
L90 (dB(A)) 44.8  
Ldn (dB(A)) 61.3  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339252-1

Page 1 of 1

**Sample Number** 2214539-6  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 30 - May 31, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.5	81.3	43.7
03:00 PM - 04:00 PM	48.8	74.9	42.7
04:00 PM - 05:00 PM	49.8	79.9	43.3
05:00 PM - 06:00 PM	48.0	73.2	43.1
06:00 PM - 07:00 PM	49.1	77.2	43.3
07:00 PM - 08:00 PM	51.3	78.0	42.9
08:00 PM - 09:00 PM	54.7	79.8	44.8
09:00 PM - 10:00 PM	46.4	70.0	44.6
10:00 PM - 11:00 PM	49.5	73.5	45.7
11:00 PM - 12:00 AM	52.2	76.5	46.2
12:00 AM - 01:00 AM	56.5	81.1	49.2
01:00 AM - 02:00 AM	55.8	85.8	49.1
02:00 AM - 03:00 AM	49.6	73.8	44.9
03:00 AM - 04:00 AM	47.2	72.9	42.7
04:00 AM - 05:00 AM	52.2	82.0	43.0
05:00 AM - 06:00 AM	51.2	72.9	44.9
06:00 AM - 07:00 AM	49.2	80.0	43.8
07:00 AM - 08:00 AM	51.1	73.6	43.6
08:00 AM - 09:00 AM	48.4	71.2	41.9
09:00 AM - 10:00 AM	49.1	68.5	40.8
10:00 AM - 11:00 AM	51.6	75.0	41.2
11:00 AM - 12:00 PM	51.9	71.5	40.2
12:00 PM - 01:00 PM	53.5	72.7	48.9
01:00 PM - 02:00 PM	52.5	77.9	41.6

Leq Average 24 hrs. (dB(A)) 51.6  
Lmax (dB(A)) 85.8  
L90 (dB(A)) 43.3  
Ldn (dB(A)) 58.7  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339253-1

Page 1 of 1

**Sample Number** 2214539-7  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองกลาง (GPS 47P 0721889, 1520717)  
**Measurement Date** May 31 - Jun 01, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 584982

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.3	81.4	40.3
03:00 PM - 04:00 PM	54.5	81.3	46.3
04:00 PM - 05:00 PM	57.4	85.2	45.2
05:00 PM - 06:00 PM	49.8	75.1	42.5
06:00 PM - 07:00 PM	44.3	73.1	40.5
07:00 PM - 08:00 PM	48.6	74.7	44.6
08:00 PM - 09:00 PM	64.2	95.8	46.5
09:00 PM - 10:00 PM	54.5	83.4	44.0
10:00 PM - 11:00 PM	48.0	76.0	42.3
11:00 PM - 12:00 AM	46.6	73.9	44.2
12:00 AM - 01:00 AM	47.0	66.7	45.3
01:00 AM - 02:00 AM	49.2	66.5	46.2
02:00 AM - 03:00 AM	50.0	80.1	45.6
03:00 AM - 04:00 AM	50.2	83.6	42.1
04:00 AM - 05:00 AM	47.7	74.1	41.6
05:00 AM - 06:00 AM	50.7	74.4	42.8
06:00 AM - 07:00 AM	56.1	84.2	42.5
07:00 AM - 08:00 AM	50.5	77.8	41.7
08:00 AM - 09:00 AM	58.5	85.2	40.8
09:00 AM - 10:00 AM	50.2	73.4	41.5
10:00 AM - 11:00 AM	51.4	74.1	42.1
11:00 AM - 12:00 PM	55.7	82.1	41.2
12:00 PM - 01:00 PM	52.5	83.2	49.5
01:00 PM - 02:00 PM	51.1	74.2	49.1

Leq Average 24 hrs. (dB(A)) 54.5  
Lmax (dB(A)) 95.8  
L90 (dB(A)) 42.5  
Ldn (dB(A)) 58.3  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

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Scientist (4)

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Supot S.

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339254-1

Page 1 of 1

**Sample Number** 2214539-8  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไข (GPS 47P 0721473, 1518765)  
**Measurement Date** May 25 - May 26, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	57.7	90.2	46.4
02:00 PM - 03:00 PM	57.0	81.8	46.9
03:00 PM - 04:00 PM	59.2	92.8	46.7
04:00 PM - 05:00 PM	52.3	74.0	45.7
05:00 PM - 06:00 PM	53.2	79.5	45.9
06:00 PM - 07:00 PM	47.1	74.3	42.9
07:00 PM - 08:00 PM	54.5	76.0	46.3
08:00 PM - 09:00 PM	48.3	68.9	44.6
09:00 PM - 10:00 PM	61.2	87.2	47.7
10:00 PM - 11:00 PM	59.4	89.1	47.2
11:00 PM - 12:00 AM	55.6	88.5	46.4
12:00 AM - 01:00 AM	45.7	62.2	44.2
01:00 AM - 02:00 AM	48.4	73.7	45.1
02:00 AM - 03:00 AM	48.3	56.1	47.4
03:00 AM - 04:00 AM	49.1	73.5	48.2
04:00 AM - 05:00 AM	53.5	82.7	46.8
05:00 AM - 06:00 AM	57.3	80.9	50.0
06:00 AM - 07:00 AM	55.3	76.0	50.2
07:00 AM - 08:00 AM	55.6	80.0	50.8
08:00 AM - 09:00 AM	54.4	78.0	48.9
09:00 AM - 10:00 AM	55.3	83.8	48.0
10:00 AM - 11:00 AM	53.1	73.5	47.9
11:00 AM - 12:00 PM	53.2	75.2	46.4
12:00 PM - 01:00 PM	53.1	73.4	46.1

Leq Average 24 hrs. (dB(A)) 55.3  
Lmax (dB(A)) 92.8  
L90 (dB(A)) 46.7  
Ldn (dB(A)) 61.2  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

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**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339255-1

Page 1 of 1

**Sample Number** 2214539-9  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไข (GPS 47P 0721473, 1518765)  
**Measurement Date** May 26 - May 27, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	53.4	81.0	45.6
02:00 PM - 03:00 PM	53.4	73.9	46.4
03:00 PM - 04:00 PM	53.9	80.1	47.3
04:00 PM - 05:00 PM	60.6	85.0	49.4
05:00 PM - 06:00 PM	66.5	78.5	51.8
06:00 PM - 07:00 PM	53.7	75.8	46.5
07:00 PM - 08:00 PM	49.9	70.7	46.6
08:00 PM - 09:00 PM	51.3	70.4	47.8
09:00 PM - 10:00 PM	50.3	76.4	46.5
10:00 PM - 11:00 PM	51.5	77.9	47.0
11:00 PM - 12:00 AM	47.0	62.7	45.4
12:00 AM - 01:00 AM	53.4	78.7	44.5
01:00 AM - 02:00 AM	51.0	75.4	45.3
02:00 AM - 03:00 AM	47.7	61.9	46.0
03:00 AM - 04:00 AM	50.2	74.5	46.9
04:00 AM - 05:00 AM	54.7	79.7	47.6
05:00 AM - 06:00 AM	56.5	78.1	50.0
06:00 AM - 07:00 AM	58.4	86.0	49.6
07:00 AM - 08:00 AM	54.7	74.4	48.8
08:00 AM - 09:00 AM	54.7	85.7	46.9
09:00 AM - 10:00 AM	53.2	77.3	46.0
10:00 AM - 11:00 AM	51.8	73.9	46.1
11:00 AM - 12:00 PM	53.6	78.6	46.8
12:00 PM - 01:00 PM	54.0	82.5	45.9

Leq Average 24 hrs. (dB(A)) 56.4  
Lmax (dB(A)) 86.0  
L90 (dB(A)) 46.6  
Ldn (dB(A)) 60.9  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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Scientist (4)

**Approved by**

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Section Head

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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339256-1

Page 1 of 1

**Sample Number** 2214539-10  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไข (GPS 47P 0721473, 1518765)  
**Measurement Date** May 27 - May 28, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	57.2	91.3	45.9
02:00 PM - 03:00 PM	56.8	79.5	48.5
03:00 PM - 04:00 PM	58.5	88.0	49.3
04:00 PM - 05:00 PM	60.0	87.8	47.9
05:00 PM - 06:00 PM	54.7	76.4	46.7
06:00 PM - 07:00 PM	54.7	75.5	44.8
07:00 PM - 08:00 PM	50.4	72.8	45.0
08:00 PM - 09:00 PM	53.0	71.9	50.2
09:00 PM - 10:00 PM	54.4	78.1	46.6
10:00 PM - 11:00 PM	56.3	83.7	47.8
11:00 PM - 12:00 AM	51.0	70.5	43.2
12:00 AM - 01:00 AM	45.3	66.3	42.3
01:00 AM - 02:00 AM	49.9	68.6	42.6
02:00 AM - 03:00 AM	45.5	71.0	42.5
03:00 AM - 04:00 AM	54.6	76.2	43.5
04:00 AM - 05:00 AM	56.9	76.7	43.9
05:00 AM - 06:00 AM	56.3	80.2	48.8
06:00 AM - 07:00 AM	57.8	81.2	48.1
07:00 AM - 08:00 AM	59.2	79.4	47.5
08:00 AM - 09:00 AM	55.3	80.6	48.3
09:00 AM - 10:00 AM	54.3	81.6	47.9
10:00 AM - 11:00 AM	54.4	78.8	47.5
11:00 AM - 12:00 PM	53.7	77.5	46.1
12:00 PM - 01:00 PM	53.0	74.2	46.2

Leq Average 24 hrs. (dB(A)) 55.5  
Lmax (dB(A)) 91.3  
L90 (dB(A)) 46.6  
Ldn (dB(A)) 61.2  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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Approved by

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Supot Salamteh  
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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339257-1

Page 1 of 1

**Sample Number** 2214539-11  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไข (GPS 47P 0721473, 1518765)  
**Measurement Date** May 28 - May 29, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	53.4	82.5	45.9
02:00 PM - 03:00 PM	53.6	81.0	47.0
03:00 PM - 04:00 PM	57.9	82.6	46.8
04:00 PM - 05:00 PM	54.7	81.0	46.9
05:00 PM - 06:00 PM	52.4	75.3	46.7
06:00 PM - 07:00 PM	56.5	72.8	46.3
07:00 PM - 08:00 PM	49.2	78.4	44.2
08:00 PM - 09:00 PM	50.6	84.8	44.2
09:00 PM - 10:00 PM	48.4	72.0	44.6
10:00 PM - 11:00 PM	50.9	74.7	47.1
11:00 PM - 12:00 AM	47.7	60.3	45.4
12:00 AM - 01:00 AM	49.7	67.8	48.1
01:00 AM - 02:00 AM	47.6	58.7	43.4
02:00 AM - 03:00 AM	45.4	70.0	42.7
03:00 AM - 04:00 AM	47.0	62.7	45.4
04:00 AM - 05:00 AM	53.4	78.7	44.5
05:00 AM - 06:00 AM	51.0	75.4	45.3
06:00 AM - 07:00 AM	47.7	61.9	46.0
07:00 AM - 08:00 AM	50.2	74.5	46.9
08:00 AM - 09:00 AM	50.5	75.6	43.0
09:00 AM - 10:00 AM	50.0	85.1	42.9
10:00 AM - 11:00 AM	47.8	75.8	42.5
11:00 AM - 12:00 PM	46.1	67.8	42.8
12:00 PM - 01:00 PM	52.6	79.3	44.4

Leq Average 24 hrs. (dB(A)) 51.8  
Lmax (dB(A)) 85.1  
L90 (dB(A)) 45.3  
Ldn (dB(A)) 56.6  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
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โรงงาน พ.ศ. 2548

Technical Management

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Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2339258-1

Page 1 of 1

**Sample Number** 2214539-12  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไผ่ (GPS 47P 0721473, 1518765)  
**Measurement Date** May 29 - May 30, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	51.2	75.3	43.1
02:00 PM - 03:00 PM	51.4	72.7	43.3
03:00 PM - 04:00 PM	68.2	86.8	45.8
04:00 PM - 05:00 PM	60.0	87.8	47.9
05:00 PM - 06:00 PM	54.7	76.4	46.7
06:00 PM - 07:00 PM	54.7	75.5	44.8
07:00 PM - 08:00 PM	51.9	75.1	44.6
08:00 PM - 09:00 PM	59.5	87.6	44.9
09:00 PM - 10:00 PM	53.0	82.2	45.1
10:00 PM - 11:00 PM	50.6	64.2	48.6
11:00 PM - 12:00 AM	48.1	72.4	44.0
12:00 AM - 01:00 AM	46.0	65.4	43.0
01:00 AM - 02:00 AM	49.9	70.0	45.9
02:00 AM - 03:00 AM	50.9	70.9	48.8
03:00 AM - 04:00 AM	49.6	70.8	48.3
04:00 AM - 05:00 AM	49.7	68.1	48.3
05:00 AM - 06:00 AM	51.5	77.9	47.0
06:00 AM - 07:00 AM	47.0	62.7	45.4
07:00 AM - 08:00 AM	53.4	78.7	44.5
08:00 AM - 09:00 AM	60.3	75.4	51.6
09:00 AM - 10:00 AM	56.2	85.7	45.3
10:00 AM - 11:00 AM	52.7	80.8	46.4
11:00 AM - 12:00 PM	55.3	82.9	46.3
12:00 PM - 01:00 PM	53.4	81.8	46.5

Leq Average 24 hrs. (dB(A)) 57.3  
Lmax (dB(A)) 87.8  
L90 (dB(A)) 45.8  
Ldn (dB(A)) 59.3  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

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**Approved by**

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Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339259-1

Page 1 of 1

**Sample Number** 2214539-13  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไช้ (GPS 47P 0721473, 1518765)  
**Measurement Date** May 30 - May 31, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	52.6	77.2	46.5
02:00 PM - 03:00 PM	54.2	78.5	48.4
03:00 PM - 04:00 PM	52.8	71.8	46.6
04:00 PM - 05:00 PM	54.2	74.0	48.2
05:00 PM - 06:00 PM	55.7	80.1	47.9
06:00 PM - 07:00 PM	50.8	75.6	45.0
07:00 PM - 08:00 PM	49.4	71.4	44.4
08:00 PM - 09:00 PM	51.3	71.7	43.4
09:00 PM - 10:00 PM	46.4	69.5	42.9
10:00 PM - 11:00 PM	51.8	75.4	42.6
11:00 PM - 12:00 AM	50.9	77.4	42.3
12:00 AM - 01:00 AM	52.3	77.6	41.1
01:00 AM - 02:00 AM	47.0	69.8	41.7
02:00 AM - 03:00 AM	47.8	74.7	42.2
03:00 AM - 04:00 AM	47.4	69.5	43.2
04:00 AM - 05:00 AM	50.2	74.7	43.9
05:00 AM - 06:00 AM	54.1	79.6	45.4
06:00 AM - 07:00 AM	59.3	88.4	47.4
07:00 AM - 08:00 AM	57.4	81.6	48.4
08:00 AM - 09:00 AM	55.8	80.8	45.9
09:00 AM - 10:00 AM	55.5	81.0	45.4
10:00 AM - 11:00 AM	51.9	74.5	44.2
11:00 AM - 12:00 PM	53.8	83.0	45.5
12:00 PM - 01:00 PM	54.3	78.2	44.5

Leq Average 24 hrs. (dB(A)) 53.5  
Lmax (dB(A)) 88.4  
L90 (dB(A)) 44.5  
Ldn (dB(A)) 59.6  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

Approved by

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2339260-1

Page 1 of 1

**Sample Number** 2214539-14  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านท่าไข (GPS 47P 0721473, 1518765)  
**Measurement Date** May 31 - Jun 01, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 572609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	54.8	82.5	45.2
02:00 PM - 03:00 PM	53.9	71.3	45.2
03:00 PM - 04:00 PM	54.9	88.3	47.3
04:00 PM - 05:00 PM	54.4	79.1	46.8
05:00 PM - 06:00 PM	54.2	81.0	45.6
06:00 PM - 07:00 PM	52.6	85.9	43.0
07:00 PM - 08:00 PM	49.1	71.6	42.5
08:00 PM - 09:00 PM	53.5	77.7	42.5
09:00 PM - 10:00 PM	50.5	75.6	43.0
10:00 PM - 11:00 PM	50.0	85.1	42.9
11:00 PM - 12:00 AM	47.8	75.8	42.5
12:00 AM - 01:00 AM	46.1	67.8	42.8
01:00 AM - 02:00 AM	48.7	75.2	42.7
02:00 AM - 03:00 AM	47.9	72.1	43.0
03:00 AM - 04:00 AM	54.0	76.7	43.5
04:00 AM - 05:00 AM	53.3	88.2	42.5
05:00 AM - 06:00 AM	55.6	81.8	43.7
06:00 AM - 07:00 AM	55.5	78.1	47.9
07:00 AM - 08:00 AM	55.8	79.4	47.9
08:00 AM - 09:00 AM	53.8	78.1	45.9
09:00 AM - 10:00 AM	54.0	81.2	45.4
10:00 AM - 11:00 AM	53.1	75.6	44.7
11:00 AM - 12:00 PM	55.0	77.5	44.8
12:00 PM - 01:00 PM	54.7	81.0	46.9

Leq Average 24 hrs. (dB(A)) 53.4  
Lmax (dB(A)) 88.3  
L90 (dB(A)) 43.7  
Ldn (dB(A)) 59.0  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339261-1

Page 1 of 1

**Sample Number** 2214539-15  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 25 - May 26, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.5	83.9	46.4
01:00 PM - 02:00 PM	54.2	75.2	46.3
02:00 PM - 03:00 PM	56.9	80.0	49.0
03:00 PM - 04:00 PM	57.3	76.7	46.7
04:00 PM - 05:00 PM	54.5	75.1	44.3
05:00 PM - 06:00 PM	58.4	84.8	46.9
06:00 PM - 07:00 PM	56.4	81.5	45.2
07:00 PM - 08:00 PM	54.2	81.9	43.2
08:00 PM - 09:00 PM	52.5	74.8	43.0
09:00 PM - 10:00 PM	56.8	75.8	43.8
10:00 PM - 11:00 PM	56.6	80.4	45.5
11:00 PM - 12:00 AM	49.4	71.9	45.1
12:00 AM - 01:00 AM	51.4	69.3	48.7
01:00 AM - 02:00 AM	50.0	70.3	47.5
02:00 AM - 03:00 AM	51.9	80.7	46.9
03:00 AM - 04:00 AM	48.9	74.8	45.1
04:00 AM - 05:00 AM	50.4	72.1	43.6
05:00 AM - 06:00 AM	55.2	80.7	45.1
06:00 AM - 07:00 AM	59.8	82.7	49.1
07:00 AM - 08:00 AM	58.9	76.0	51.1
08:00 AM - 09:00 AM	60.8	91.7	47.1
09:00 AM - 10:00 AM	54.1	76.0	43.7
10:00 AM - 11:00 AM	52.6	74.7	44.5
11:00 AM - 12:00 PM	52.9	74.3	46.1

Leq Average 24 hrs. (dB(A)) 55.8  
Lmax (dB(A)) 91.7  
L90 (dB(A)) 45.5  
Ldn (dB(A)) 61.1  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

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Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339262-1

Page 1 of 1

**Sample Number** 2214539-16  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 26 - May 27, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	56.8	79.6	44.9
01:00 PM - 02:00 PM	53.8	73.0	46.0
02:00 PM - 03:00 PM	56.4	80.6	48.6
03:00 PM - 04:00 PM	56.8	76.9	47.8
04:00 PM - 05:00 PM	57.2	72.5	46.0
05:00 PM - 06:00 PM	65.5	81.8	51.2
06:00 PM - 07:00 PM	58.8	79.3	49.9
07:00 PM - 08:00 PM	56.8	84.1	44.8
08:00 PM - 09:00 PM	54.1	73.8	45.6
09:00 PM - 10:00 PM	56.2	83.7	46.1
10:00 PM - 11:00 PM	55.0	71.6	51.2
11:00 PM - 12:00 AM	54.1	77.5	51.6
12:00 AM - 01:00 AM	52.0	68.1	50.5
01:00 AM - 02:00 AM	51.3	70.4	48.9
02:00 AM - 03:00 AM	50.5	70.4	48.2
03:00 AM - 04:00 AM	49.3	66.7	47.0
04:00 AM - 05:00 AM	49.0	67.5	44.6
05:00 AM - 06:00 AM	54.2	77.3	44.9
06:00 AM - 07:00 AM	58.5	78.6	48.2
07:00 AM - 08:00 AM	62.5	87.2	53.4
08:00 AM - 09:00 AM	56.2	76.3	48.7
09:00 AM - 10:00 AM	56.7	73.7	48.3
10:00 AM - 11:00 AM	55.8	72.4	48.0
11:00 AM - 12:00 PM	58.3	77.1	50.5

Leq Average 24 hrs. (dB(A)) 57.5  
Lmax (dB(A)) 87.2  
L90 (dB(A)) 48.2  
Ldn (dB(A)) 61.3  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

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Saranya Chalermthamrong  
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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339263-1

Page 1 of 1

**Sample Number** 2214539-17  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 27 - May 28, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.4	83.0	48.4
01:00 PM - 02:00 PM	58.4	88.7	48.9
02:00 PM - 03:00 PM	55.9	76.9	49.2
03:00 PM - 04:00 PM	57.9	77.6	47.9
04:00 PM - 05:00 PM	60.0	87.6	47.5
05:00 PM - 06:00 PM	57.7	81.7	47.3
06:00 PM - 07:00 PM	61.0	91.0	46.3
07:00 PM - 08:00 PM	54.0	72.7	45.0
08:00 PM - 09:00 PM	52.7	74.6	44.9
09:00 PM - 10:00 PM	51.8	75.6	44.7
10:00 PM - 11:00 PM	52.7	81.1	44.9
11:00 PM - 12:00 AM	50.7	70.0	44.8
12:00 AM - 01:00 AM	50.2	75.1	43.5
01:00 AM - 02:00 AM	48.7	73.7	43.6
02:00 AM - 03:00 AM	48.0	69.0	44.8
03:00 AM - 04:00 AM	48.8	74.9	42.7
04:00 AM - 05:00 AM	50.6	70.1	42.7
05:00 AM - 06:00 AM	55.4	84.0	44.4
06:00 AM - 07:00 AM	57.0	75.4	47.2
07:00 AM - 08:00 AM	58.6	81.1	47.1
08:00 AM - 09:00 AM	57.2	82.7	44.9
09:00 AM - 10:00 AM	56.1	80.8	44.1
10:00 AM - 11:00 AM	55.2	80.7	44.6
11:00 AM - 12:00 PM	54.6	78.8	43.2

Leq Average 24 hrs. (dB(A)) 56.0  
Lmax (dB(A)) 91.0  
L90 (dB(A)) 44.9  
Ldn (dB(A)) 60.0  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339264-1

Page 1 of 1

**Sample Number** 2214539-18  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 28 - May 29, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	55.6	81.0	43.4
01:00 PM - 02:00 PM	53.7	74.6	43.3
02:00 PM - 03:00 PM	54.8	77.7	43.8
03:00 PM - 04:00 PM	55.2	78.0	45.5
04:00 PM - 05:00 PM	54.1	74.2	44.0
05:00 PM - 06:00 PM	59.2	88.6	44.6
06:00 PM - 07:00 PM	60.8	91.7	47.1
07:00 PM - 08:00 PM	54.1	76.0	43.7
08:00 PM - 09:00 PM	52.6	74.7	44.5
09:00 PM - 10:00 PM	52.9	74.3	46.1
10:00 PM - 11:00 PM	60.2	91.7	44.4
11:00 PM - 12:00 AM	57.2	81.6	43.9
12:00 AM - 01:00 AM	50.9	77.9	43.9
01:00 AM - 02:00 AM	50.7	74.0	43.6
02:00 AM - 03:00 AM	48.1	68.1	43.1
03:00 AM - 04:00 AM	46.6	70.0	42.1
04:00 AM - 05:00 AM	49.6	76.5	42.0
05:00 AM - 06:00 AM	59.1	89.0	44.8
06:00 AM - 07:00 AM	58.9	87.2	44.9
07:00 AM - 08:00 AM	57.2	86.3	45.0
08:00 AM - 09:00 AM	56.1	84.8	44.7
09:00 AM - 10:00 AM	58.1	84.4	46.5
10:00 AM - 11:00 AM	64.1	82.0	43.9
11:00 AM - 12:00 PM	54.3	78.9	43.8

Leq Average 24 hrs. (dB(A)) 57.1  
Lmax (dB(A)) 91.7  
L90 (dB(A)) 43.9  
Ldn (dB(A)) 62.7  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022

Date Reported : Jun 10, 2022

Report Number: 2339265-1

Page 1 of 1

**Sample Number** 2214539-19  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 29 - May 30, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	56.9	82.7	43.8
01:00 PM - 02:00 PM	54.7	85.5	41.9
02:00 PM - 03:00 PM	54.0	79.7	43.3
03:00 PM - 04:00 PM	55.6	80.5	43.3
04:00 PM - 05:00 PM	56.8	79.3	44.6
05:00 PM - 06:00 PM	61.2	81.8	51.0
06:00 PM - 07:00 PM	68.0	81.4	48.3
07:00 PM - 08:00 PM	52.9	75.4	43.2
08:00 PM - 09:00 PM	53.0	77.5	43.2
09:00 PM - 10:00 PM	53.1	87.1	44.0
10:00 PM - 11:00 PM	50.7	73.3	44.0
11:00 PM - 12:00 AM	48.1	72.2	44.8
12:00 AM - 01:00 AM	48.4	70.1	43.3
01:00 AM - 02:00 AM	47.0	66.1	43.9
02:00 AM - 03:00 AM	46.9	68.3	43.9
03:00 AM - 04:00 AM	47.3	72.9	42.4
04:00 AM - 05:00 AM	52.6	78.2	42.2
05:00 AM - 06:00 AM	56.8	82.6	43.7
06:00 AM - 07:00 AM	61.8	86.0	47.2
07:00 AM - 08:00 AM	63.8	93.4	55.1
08:00 AM - 09:00 AM	55.9	84.7	48.0
09:00 AM - 10:00 AM	58.2	87.0	46.7
10:00 AM - 11:00 AM	56.0	87.5	48.2
11:00 AM - 12:00 PM	58.4	85.2	50.4

Leq Average 24 hrs. (dB(A)) 58.6  
Lmax (dB(A)) 93.4  
L90 (dB(A)) 43.9  
Ldn (dB(A)) 62.3  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339266-1

Page 1 of 1

**Sample Number** 2214539-20  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 30 - May 31, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.0	83.7	48.5
01:00 PM - 02:00 PM	56.1	80.9	48.9
02:00 PM - 03:00 PM	55.9	84.1	49.0
03:00 PM - 04:00 PM	56.8	78.0	45.2
04:00 PM - 05:00 PM	56.4	82.7	44.5
05:00 PM - 06:00 PM	58.7	91.7	50.6
06:00 PM - 07:00 PM	57.8	80.8	45.7
07:00 PM - 08:00 PM	55.7	82.9	42.5
08:00 PM - 09:00 PM	54.9	83.1	42.5
09:00 PM - 10:00 PM	51.0	78.7	42.9
10:00 PM - 11:00 PM	52.6	78.7	43.7
11:00 PM - 12:00 AM	47.9	75.9	42.7
12:00 AM - 01:00 AM	49.0	74.8	42.1
01:00 AM - 02:00 AM	47.9	69.8	43.2
02:00 AM - 03:00 AM	46.9	67.0	43.8
03:00 AM - 04:00 AM	48.5	67.0	43.2
04:00 AM - 05:00 AM	47.4	67.1	42.4
05:00 AM - 06:00 AM	50.5	70.4	48.2
06:00 AM - 07:00 AM	49.3	66.7	47.0
07:00 AM - 08:00 AM	49.0	67.5	44.6
08:00 AM - 09:00 AM	48.0	69.0	44.8
09:00 AM - 10:00 AM	48.8	74.9	42.7
10:00 AM - 11:00 AM	50.6	70.1	42.7
11:00 AM - 12:00 PM	56.7	85.5	47.9

Leq Average 24 hrs. (dB(A)) 53.9  
Lmax (dB(A)) 91.7  
L90 (dB(A)) 43.8  
Ldn (dB(A)) 57.2  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
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โรงงาน พ.ศ. 2548

Technical Management

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Supot Salamteh  
Section Head

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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339267-1

Page 1 of 1

**Sample Number** 2214539-21  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านคลองลาว (GPS 47P 0719792, 1516992)  
**Measurement Date** May 31 - Jun 01, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858525

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.3	81.3	45.8
01:00 PM - 02:00 PM	54.0	84.0	45.0
02:00 PM - 03:00 PM	55.3	85.0	46.8
03:00 PM - 04:00 PM	57.2	82.1	48.1
04:00 PM - 05:00 PM	58.2	84.2	46.0
05:00 PM - 06:00 PM	57.0	75.5	46.7
06:00 PM - 07:00 PM	55.5	73.7	45.0
07:00 PM - 08:00 PM	55.7	75.6	45.2
08:00 PM - 09:00 PM	50.6	70.1	42.7
09:00 PM - 10:00 PM	55.4	84.0	44.4
10:00 PM - 11:00 PM	57.0	75.4	47.2
11:00 PM - 12:00 AM	58.6	81.1	47.1
12:00 AM - 01:00 AM	57.2	82.7	44.9
01:00 AM - 02:00 AM	58.9	87.2	44.9
02:00 AM - 03:00 AM	57.2	86.3	45.0
03:00 AM - 04:00 AM	56.1	84.8	44.7
04:00 AM - 05:00 AM	58.1	84.4	46.5
05:00 AM - 06:00 AM	58.2	87.0	46.7
06:00 AM - 07:00 AM	56.0	87.5	48.2
07:00 AM - 08:00 AM	58.4	85.2	50.4
08:00 AM - 09:00 AM	58.7	91.7	50.6
09:00 AM - 10:00 AM	57.8	80.8	45.7
10:00 AM - 11:00 AM	55.7	82.9	42.5
11:00 AM - 12:00 PM	54.9	83.1	42.5

Leq Average 24 hrs. (dB(A)) 56.9  
Lmax (dB(A)) 91.7  
L90 (dB(A)) 45.7  
Ldn (dB(A)) 63.9  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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**Approved by**

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Supot Salamteh  
Section Head

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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339268-1

Page 1 of 1

**Sample Number** 2214539-22  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 25 - May 26, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	60.0	79.7	48.4
12:00 PM - 01:00 PM	53.3	74.9	45.6
01:00 PM - 02:00 PM	51.0	71.7	45.6
02:00 PM - 03:00 PM	50.2	72.5	45.2
03:00 PM - 04:00 PM	56.6	85.1	43.0
04:00 PM - 05:00 PM	52.0	83.8	43.9
05:00 PM - 06:00 PM	50.1	81.2	45.4
06:00 PM - 07:00 PM	49.5	70.3	45.6
07:00 PM - 08:00 PM	52.8	70.3	48.5
08:00 PM - 09:00 PM	54.6	73.5	53.4
09:00 PM - 10:00 PM	63.3	93.7	52.4
10:00 PM - 11:00 PM	57.4	74.4	52.7
11:00 PM - 12:00 AM	58.2	62.8	55.1
12:00 AM - 01:00 AM	57.3	63.9	53.1
01:00 AM - 02:00 AM	56.7	64.7	50.0
02:00 AM - 03:00 AM	56.1	66.2	50.8
03:00 AM - 04:00 AM	58.1	68.6	52.3
04:00 AM - 05:00 AM	58.1	69.3	53.2
05:00 AM - 06:00 AM	57.5	76.2	49.3
06:00 AM - 07:00 AM	51.5	75.7	47.6
07:00 AM - 08:00 AM	61.7	91.4	47.0
08:00 AM - 09:00 AM	52.4	79.2	45.9
09:00 AM - 10:00 AM	53.8	79.1	46.9
10:00 AM - 11:00 AM	53.4	82.8	47.8

Leq Average 24 hrs. (dB(A)) 56.8  
Lmax (dB(A)) 93.7  
L90 (dB(A)) 47.8  
Ldn (dB(A)) 63.5  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

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**Approved by**

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Section Head

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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339269-1

Page 1 of 1

**Sample Number** 2214539-23  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 26 - May 27, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	68.0	95.1	50.2
12:00 PM - 01:00 PM	55.1	75.4	44.6
01:00 PM - 02:00 PM	55.7	83.1	43.3
02:00 PM - 03:00 PM	56.6	81.8	46.4
03:00 PM - 04:00 PM	58.7	75.3	46.4
04:00 PM - 05:00 PM	62.3	78.8	47.0
05:00 PM - 06:00 PM	69.6	101.0	50.9
06:00 PM - 07:00 PM	63.3	90.7	46.0
07:00 PM - 08:00 PM	56.9	71.2	54.8
08:00 PM - 09:00 PM	61.6	66.3	58.2
09:00 PM - 10:00 PM	63.2	67.8	62.0
10:00 PM - 11:00 PM	64.7	69.2	63.0
11:00 PM - 12:00 AM	68.1	72.9	65.7
12:00 AM - 01:00 AM	66.0	69.6	64.6
01:00 AM - 02:00 AM	65.7	69.6	63.6
02:00 AM - 03:00 AM	69.0	72.0	67.4
03:00 AM - 04:00 AM	67.6	70.6	66.4
04:00 AM - 05:00 AM	63.0	75.5	55.2
05:00 AM - 06:00 AM	54.7	74.8	51.2
06:00 AM - 07:00 AM	56.1	80.0	47.2
07:00 AM - 08:00 AM	57.2	89.7	46.7
08:00 AM - 09:00 AM	51.5	77.3	43.9
09:00 AM - 10:00 AM	52.2	83.1	42.0
10:00 AM - 11:00 AM	53.0	80.0	42.4

Leq Average 24 hrs. (dB(A)) 64.0  
Lmax (dB(A)) 101.0  
L90 (dB(A)) 50.2  
Ldn (dB(A)) 71.8  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339270-1

Page 1 of 1

**Sample Number** 2214539-24  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 27 - May 28, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	61.2	84.8	46.5
12:00 PM - 01:00 PM	57.3	83.4	43.3
01:00 PM - 02:00 PM	52.4	82.8	41.5
02:00 PM - 03:00 PM	51.2	77.7	42.8
03:00 PM - 04:00 PM	60.0	81.7	47.6
04:00 PM - 05:00 PM	51.5	77.7	45.8
05:00 PM - 06:00 PM	55.2	81.7	46.3
06:00 PM - 07:00 PM	52.8	76.4	45.8
07:00 PM - 08:00 PM	56.5	64.0	53.9
08:00 PM - 09:00 PM	58.4	64.9	56.7
09:00 PM - 10:00 PM	57.8	64.5	55.7
10:00 PM - 11:00 PM	56.1	63.9	53.0
11:00 PM - 12:00 AM	55.4	63.7	51.2
12:00 AM - 01:00 AM	53.3	62.3	50.1
01:00 AM - 02:00 AM	52.5	61.4	50.1
02:00 AM - 03:00 AM	50.4	64.0	47.5
03:00 AM - 04:00 AM	48.8	59.1	45.6
04:00 AM - 05:00 AM	50.4	68.0	47.3
05:00 AM - 06:00 AM	52.5	74.5	48.1
06:00 AM - 07:00 AM	51.5	75.5	44.9
07:00 AM - 08:00 AM	50.9	71.4	45.5
08:00 AM - 09:00 AM	51.2	80.7	45.9
09:00 AM - 10:00 AM	52.6	84.1	45.8
10:00 AM - 11:00 AM	53.9	91.8	46.2

Leq Average 24 hrs. (dB(A)) 55.2  
Lmax (dB(A)) 91.8  
L90 (dB(A)) 46.3  
Ldn (dB(A)) 60.0  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

*Saranya C.*

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**Approved by**

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Supot Salamteh  
Section Head

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## Analysis / Test Report

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339271-1

Page 1 of 1

**Sample Number** 2214539-25  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 28 - May 29, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	53.3	75.5	45.5
12:00 PM - 01:00 PM	50.8	75.2	45.8
01:00 PM - 02:00 PM	51.9	71.5	46.6
02:00 PM - 03:00 PM	52.9	77.0	47.3
03:00 PM - 04:00 PM	57.6	83.4	46.1
04:00 PM - 05:00 PM	58.3	75.4	47.5
05:00 PM - 06:00 PM	55.7	79.3	44.9
06:00 PM - 07:00 PM	55.6	76.2	46.5
07:00 PM - 08:00 PM	52.6	63.5	48.3
08:00 PM - 09:00 PM	54.2	62.0	52.1
09:00 PM - 10:00 PM	56.4	64.9	55.0
10:00 PM - 11:00 PM	54.5	60.1	53.0
11:00 PM - 12:00 AM	51.2	65.9	48.3
12:00 AM - 01:00 AM	52.5	59.4	50.9
01:00 AM - 02:00 AM	52.5	68.5	49.3
02:00 AM - 03:00 AM	48.9	60.1	46.6
03:00 AM - 04:00 AM	48.6	63.4	46.6
04:00 AM - 05:00 AM	50.3	70.0	47.3
05:00 AM - 06:00 AM	52.8	78.2	48.1
06:00 AM - 07:00 AM	51.2	77.0	45.6
07:00 AM - 08:00 AM	54.3	78.7	45.1
08:00 AM - 09:00 AM	49.5	69.5	45.0
09:00 AM - 10:00 AM	50.6	73.3	42.1
10:00 AM - 11:00 AM	52.9	86.1	43.4

Leq Average 24 hrs. (dB(A)) 53.7  
Lmax (dB(A)) 86.1  
L90 (dB(A)) 46.6  
Ldn (dB(A)) 58.7  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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Saranya Chalermthamrong  
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Supot Salamteh  
Section Head

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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339272-1

Page 1 of 1

**Sample Number** 2214539-26  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 29 - May 30, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	50.3	71.1	44.4
12:00 PM - 01:00 PM	53.7	74.4	46.7
01:00 PM - 02:00 PM	58.6	82.1	44.9
02:00 PM - 03:00 PM	53.8	82.5	47.6
03:00 PM - 04:00 PM	59.6	83.0	47.9
04:00 PM - 05:00 PM	58.4	69.5	51.8
05:00 PM - 06:00 PM	60.5	76.4	51.2
06:00 PM - 07:00 PM	57.7	73.3	49.4
07:00 PM - 08:00 PM	51.3	61.8	47.9
08:00 PM - 09:00 PM	53.8	67.4	52.1
09:00 PM - 10:00 PM	53.4	65.6	51.2
10:00 PM - 11:00 PM	52.9	63.0	50.8
11:00 PM - 12:00 AM	52.8	62.9	51.3
12:00 AM - 01:00 AM	52.8	62.9	51.1
01:00 AM - 02:00 AM	52.6	61.7	50.8
02:00 AM - 03:00 AM	51.3	63.1	48.6
03:00 AM - 04:00 AM	52.2	62.0	48.8
04:00 AM - 05:00 AM	53.0	62.3	48.6
05:00 AM - 06:00 AM	53.2	79.7	47.3
06:00 AM - 07:00 AM	53.1	76.8	45.8
07:00 AM - 08:00 AM	53.9	85.7	45.0
08:00 AM - 09:00 AM	51.2	71.7	43.7
09:00 AM - 10:00 AM	50.4	74.0	42.0
10:00 AM - 11:00 AM	49.7	68.5	41.4

Leq Average 24 hrs. (dB(A)) 54.9  
Lmax (dB(A)) 85.7  
L90 (dB(A)) 47.9  
Ldn (dB(A)) 59.7  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339273-1

Page 1 of 1

**Sample Number** 2214539-27  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 30 - May 31, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.4	82.0	43.6
12:00 PM - 01:00 PM	61.7	91.1	49.8
01:00 PM - 02:00 PM	54.7	77.7	49.0
02:00 PM - 03:00 PM	54.1	83.6	48.6
03:00 PM - 04:00 PM	50.2	72.1	46.9
04:00 PM - 05:00 PM	51.5	78.7	46.2
05:00 PM - 06:00 PM	53.3	79.0	46.6
06:00 PM - 07:00 PM	52.9	69.5	44.8
07:00 PM - 08:00 PM	50.9	69.4	48.5
08:00 PM - 09:00 PM	52.7	59.1	50.5
09:00 PM - 10:00 PM	57.1	61.6	53.9
10:00 PM - 11:00 PM	58.1	70.6	56.6
11:00 PM - 12:00 AM	63.0	67.8	60.9
12:00 AM - 01:00 AM	66.0	69.6	64.6
01:00 AM - 02:00 AM	65.7	69.6	63.6
02:00 AM - 03:00 AM	63.4	69.2	60.8
03:00 AM - 04:00 AM	60.1	65.8	55.1
04:00 AM - 05:00 AM	51.8	61.5	48.0
05:00 AM - 06:00 AM	50.9	72.9	47.3
06:00 AM - 07:00 AM	54.5	76.1	47.0
07:00 AM - 08:00 AM	53.5	78.3	48.0
08:00 AM - 09:00 AM	61.7	96.7	48.0
09:00 AM - 10:00 AM	53.6	74.7	47.4
10:00 AM - 11:00 AM	49.4	69.2	44.9

Leq Average 24 hrs. (dB(A)) 59.3  
Lmax (dB(A)) 96.7  
L90 (dB(A)) 48.0  
Ldn (dB(A)) 67.9  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339274-1

Page 1 of 1

**Sample Number** 2214539-28  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบางปลานัก (GPS 47P 0714361, 1518864)  
**Measurement Date** May 31 - Jun 01, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	49.6	75.4	43.1
12:00 PM - 01:00 PM	55.8	79.9	42.6
01:00 PM - 02:00 PM	49.3	80.4	41.5
02:00 PM - 03:00 PM	53.5	79.1	42.3
03:00 PM - 04:00 PM	51.0	76.6	44.5
04:00 PM - 05:00 PM	50.9	77.4	45.8
05:00 PM - 06:00 PM	53.7	70.6	43.9
06:00 PM - 07:00 PM	49.1	79.1	42.2
07:00 PM - 08:00 PM	51.5	65.4	47.8
08:00 PM - 09:00 PM	53.9	64.2	51.1
09:00 PM - 10:00 PM	54.9	67.9	52.3
10:00 PM - 11:00 PM	55.1	65.3	52.8
11:00 PM - 12:00 AM	55.4	67.8	52.8
12:00 AM - 01:00 AM	57.3	64.2	54.4
01:00 AM - 02:00 AM	62.6	66.5	60.6
02:00 AM - 03:00 AM	61.9	80.3	59.7
03:00 AM - 04:00 AM	62.4	72.8	56.7
04:00 AM - 05:00 AM	54.3	78.0	50.3
05:00 AM - 06:00 AM	54.9	80.6	49.5
06:00 AM - 07:00 AM	52.7	73.8	47.0
07:00 AM - 08:00 AM	54.8	82.5	47.8
08:00 AM - 09:00 AM	55.5	77.3	45.3
09:00 AM - 10:00 AM	55.1	86.6	44.4
10:00 AM - 11:00 AM	50.1	67.8	48.5

Leq Average 24 hrs. (dB(A)) 56.3  
Lmax (dB(A)) 86.6  
L90 (dB(A)) 47.8  
Ldn (dB(A)) 64.9  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
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โรงงาน พ.ศ. 2548

Technical Management

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Approved by

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Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339275-1

Page 1 of 1

**Sample Number** 2214539-29  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 25 - May 26, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.8	72.4	55.8
12:00 PM - 01:00 PM	57.1	63.6	56.1
01:00 PM - 02:00 PM	56.9	69.7	55.8
02:00 PM - 03:00 PM	57.4	75.6	56.2
03:00 PM - 04:00 PM	57.0	68.9	56.1
04:00 PM - 05:00 PM	57.1	75.6	56.1
05:00 PM - 06:00 PM	56.7	74.3	55.8
06:00 PM - 07:00 PM	59.4	94.5	56.1
07:00 PM - 08:00 PM	63.6	80.9	57.0
08:00 PM - 09:00 PM	56.6	62.5	56.0
09:00 PM - 10:00 PM	56.8	69.2	56.2
10:00 PM - 11:00 PM	63.1	88.5	57.2
11:00 PM - 12:00 AM	57.2	73.6	56.1
12:00 AM - 01:00 AM	56.4	59.0	55.9
01:00 AM - 02:00 AM	56.0	58.0	55.6
02:00 AM - 03:00 AM	56.1	60.0	55.7
03:00 AM - 04:00 AM	56.3	59.7	55.9
04:00 AM - 05:00 AM	56.3	60.0	55.8
05:00 AM - 06:00 AM	63.1	81.0	57.0
06:00 AM - 07:00 AM	61.6	83.8	56.2
07:00 AM - 08:00 AM	57.9	85.4	55.9
08:00 AM - 09:00 AM	59.8	95.1	56.2
09:00 AM - 10:00 AM	57.0	72.5	55.8
10:00 AM - 11:00 AM	57.4	74.5	56.3

Leq Average 24 hrs. (dB(A)) 58.8  
Lmax (dB(A)) 95.1  
L90 (dB(A)) 56.1  
Ldn (dB(A)) 65.8  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

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Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339276-1

Page 1 of 1

**Sample Number** 2214539-30  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 26 - May 27, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.5	73.9	56.5
12:00 PM - 01:00 PM	57.1	74.0	56.0
01:00 PM - 02:00 PM	57.7	75.2	55.7
02:00 PM - 03:00 PM	57.5	81.5	56.0
03:00 PM - 04:00 PM	57.9	93.1	56.2
04:00 PM - 05:00 PM	57.2	71.9	56.2
05:00 PM - 06:00 PM	60.8	96.9	56.6
06:00 PM - 07:00 PM	67.0	103.8	57.4
07:00 PM - 08:00 PM	60.0	77.1	56.9
08:00 PM - 09:00 PM	56.5	60.2	55.9
09:00 PM - 10:00 PM	56.7	59.9	56.1
10:00 PM - 11:00 PM	57.5	60.6	56.8
11:00 PM - 12:00 AM	57.7	60.8	57.0
12:00 AM - 01:00 AM	58.4	63.9	57.0
01:00 AM - 02:00 AM	63.6	68.0	60.6
02:00 AM - 03:00 AM	65.3	69.2	63.5
03:00 AM - 04:00 AM	66.4	69.9	64.9
04:00 AM - 05:00 AM	65.1	70.4	61.1
05:00 AM - 06:00 AM	61.8	75.4	59.0
06:00 AM - 07:00 AM	61.5	77.5	57.7
07:00 AM - 08:00 AM	58.1	89.1	56.8
08:00 AM - 09:00 AM	57.8	73.6	56.5
09:00 AM - 10:00 AM	57.0	70.3	56.3
10:00 AM - 11:00 AM	58.4	87.2	56.3

Leq Average 24 hrs. (dB(A)) 61.2  
Lmax (dB(A)) 103.8  
L90 (dB(A)) 56.6  
Ldn (dB(A)) 69.1  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339277-1

Page 1 of 1

**Sample Number** 2214539-31  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 27 - May 28, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	58.6	73.1	56.0
12:00 PM - 01:00 PM	58.2	73.6	55.9
01:00 PM - 02:00 PM	57.9	76.3	56.5
02:00 PM - 03:00 PM	58.2	68.3	56.5
03:00 PM - 04:00 PM	57.8	68.4	56.1
04:00 PM - 05:00 PM	57.4	86.2	56.3
05:00 PM - 06:00 PM	65.8	85.1	56.7
06:00 PM - 07:00 PM	57.8	80.2	56.6
07:00 PM - 08:00 PM	60.2	78.8	57.0
08:00 PM - 09:00 PM	60.0	69.0	56.5
09:00 PM - 10:00 PM	56.9	63.3	56.3
10:00 PM - 11:00 PM	56.7	61.2	56.3
11:00 PM - 12:00 AM	56.7	58.4	56.3
12:00 AM - 01:00 AM	56.4	58.4	56.0
01:00 AM - 02:00 AM	56.1	58.0	55.7
02:00 AM - 03:00 AM	56.2	60.5	55.7
03:00 AM - 04:00 AM	56.5	64.8	56.0
04:00 AM - 05:00 AM	56.6	58.1	56.2
05:00 AM - 06:00 AM	58.7	69.6	56.8
06:00 AM - 07:00 AM	64.0	84.0	58.2
07:00 AM - 08:00 AM	58.0	78.6	56.8
08:00 AM - 09:00 AM	61.5	80.7	56.5
09:00 AM - 10:00 AM	63.2	87.1	56.1
10:00 AM - 11:00 AM	57.9	81.4	56.0

Leq Average 24 hrs. (dB(A)) 59.6  
Lmax (dB(A)) 87.1  
L90 (dB(A)) 56.3  
Ldn (dB(A)) 65.2  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

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Saranya Chalermthamrong  
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Supot Salamteh  
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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339278-1

Page 1 of 1

**Sample Number** 2214539-32  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 28 - May 29, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	58.0	76.0	56.1
12:00 PM - 01:00 PM	58.1	74.2	55.8
01:00 PM - 02:00 PM	59.6	79.1	55.7
02:00 PM - 03:00 PM	58.3	77.4	55.5
03:00 PM - 04:00 PM	60.0	84.3	55.6
04:00 PM - 05:00 PM	59.2	74.6	56.7
05:00 PM - 06:00 PM	57.4	81.9	56.2
06:00 PM - 07:00 PM	57.3	76.5	56.4
07:00 PM - 08:00 PM	64.2	78.8	57.0
08:00 PM - 09:00 PM	57.3	63.3	56.2
09:00 PM - 10:00 PM	56.7	61.5	56.1
10:00 PM - 11:00 PM	56.9	67.5	56.4
11:00 PM - 12:00 AM	56.8	59.7	56.3
12:00 AM - 01:00 AM	56.6	73.0	56.1
01:00 AM - 02:00 AM	56.8	62.7	56.3
02:00 AM - 03:00 AM	56.8	61.5	56.2
03:00 AM - 04:00 AM	56.8	68.3	56.3
04:00 AM - 05:00 AM	56.6	65.5	56.0
05:00 AM - 06:00 AM	59.0	68.2	56.7
06:00 AM - 07:00 AM	62.7	79.2	57.1
07:00 AM - 08:00 AM	58.3	94.5	56.1
08:00 AM - 09:00 AM	58.0	83.7	56.2
09:00 AM - 10:00 AM	56.9	75.4	55.7
10:00 AM - 11:00 AM	56.5	76.0	55.5

Leq Average 24 hrs. (dB(A)) 58.7  
Lmax (dB(A)) 94.5  
L90 (dB(A)) 56.2  
Ldn (dB(A)) 64.7  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339279-1

Page 1 of 1

**Sample Number** 2214539-33  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 29 - May 30, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.8	78.7	55.5
12:00 PM - 01:00 PM	56.6	68.8	55.5
01:00 PM - 02:00 PM	56.2	80.2	55.1
02:00 PM - 03:00 PM	56.2	72.0	55.0
03:00 PM - 04:00 PM	56.8	82.9	55.1
04:00 PM - 05:00 PM	56.6	76.0	55.3
05:00 PM - 06:00 PM	56.3	79.8	55.2
06:00 PM - 07:00 PM	56.5	74.6	55.7
07:00 PM - 08:00 PM	59.5	81.5	56.4
08:00 PM - 09:00 PM	57.4	66.4	56.1
09:00 PM - 10:00 PM	57.2	62.0	56.3
10:00 PM - 11:00 PM	59.5	65.7	57.9
11:00 PM - 12:00 AM	60.4	64.5	58.7
12:00 AM - 01:00 AM	61.7	65.1	60.3
01:00 AM - 02:00 AM	62.4	65.1	61.5
02:00 AM - 03:00 AM	63.1	66.0	62.0
03:00 AM - 04:00 AM	62.8	66.1	61.4
04:00 AM - 05:00 AM	61.6	66.2	59.4
05:00 AM - 06:00 AM	60.1	76.8	58.4
06:00 AM - 07:00 AM	63.4	80.7	57.6
07:00 AM - 08:00 AM	57.7	71.6	56.9
08:00 AM - 09:00 AM	57.7	74.1	56.3
09:00 AM - 10:00 AM	56.6	70.7	55.9
10:00 AM - 11:00 AM	56.4	70.9	55.7

Leq Average 24 hrs. (dB(A)) 59.5  
Lmax (dB(A)) 82.9  
L90 (dB(A)) 56.3  
Ldn (dB(A)) 67.8  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong  
Scientist (4)

Approved by

Supot S.

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339280-1

Page 1 of 1

**Sample Number** 2214539-34  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 30 - May 31, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.7	68.7	55.8
12:00 PM - 01:00 PM	57.4	74.1	56.0
01:00 PM - 02:00 PM	57.0	72.3	55.9
02:00 PM - 03:00 PM	57.3	76.6	55.9
03:00 PM - 04:00 PM	57.3	66.4	55.7
04:00 PM - 05:00 PM	57.2	70.4	55.8
05:00 PM - 06:00 PM	57.4	69.6	56.5
06:00 PM - 07:00 PM	58.0	95.8	55.9
07:00 PM - 08:00 PM	58.1	74.3	55.9
08:00 PM - 09:00 PM	61.5	77.1	56.9
09:00 PM - 10:00 PM	57.4	65.2	56.4
10:00 PM - 11:00 PM	58.1	63.0	56.9
11:00 PM - 12:00 AM	59.3	63.2	58.1
12:00 AM - 01:00 AM	60.1	63.2	58.9
01:00 AM - 02:00 AM	61.2	64.6	60.3
02:00 AM - 03:00 AM	60.8	63.7	59.9
03:00 AM - 04:00 AM	60.1	63.7	58.9
04:00 AM - 05:00 AM	58.7	61.9	57.6
05:00 AM - 06:00 AM	58.0	66.8	56.9
06:00 AM - 07:00 AM	63.8	78.6	59.6
07:00 AM - 08:00 AM	58.7	75.9	56.5
08:00 AM - 09:00 AM	56.8	68.6	56.1
09:00 AM - 10:00 AM	56.7	77.0	55.8
10:00 AM - 11:00 AM	56.3	66.0	55.6

Leq Average 24 hrs. (dB(A)) 59.0  
Lmax (dB(A)) 95.8  
L90 (dB(A)) 56.4  
Ldn (dB(A)) 66.5  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214539**

Date Received : Jun 02, 2022  
Date Reported : Jun 10, 2022  
Report Number: 2339281-1

Page 1 of 1

**Sample Number** 2214539-35  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)  
**Measurement Date** May 31 - Jun 01, 2022  
**Measurement by** Bancha Namkhed  
**Sound Level meter** Serial No. 710220

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.1	77.2	55.6
12:00 PM - 01:00 PM	56.8	72.3	55.6
01:00 PM - 02:00 PM	56.2	72.0	54.9
02:00 PM - 03:00 PM	56.1	68.3	55.4
03:00 PM - 04:00 PM	56.7	66.0	55.9
04:00 PM - 05:00 PM	56.8	72.5	55.7
05:00 PM - 06:00 PM	57.0	82.1	56.0
06:00 PM - 07:00 PM	57.3	80.0	56.4
07:00 PM - 08:00 PM	60.8	86.0	56.8
08:00 PM - 09:00 PM	60.8	78.0	57.0
09:00 PM - 10:00 PM	57.1	60.8	56.3
10:00 PM - 11:00 PM	56.9	64.5	56.3
11:00 PM - 12:00 AM	57.1	64.8	56.4
12:00 AM - 01:00 AM	57.3	61.2	56.6
01:00 AM - 02:00 AM	58.2	61.7	57.2
02:00 AM - 03:00 AM	60.3	66.8	59.1
03:00 AM - 04:00 AM	60.1	74.8	59.0
04:00 AM - 05:00 AM	57.7	68.1	56.6
05:00 AM - 06:00 AM	57.7	81.3	56.3
06:00 AM - 07:00 AM	63.7	80.1	58.8
07:00 AM - 08:00 AM	59.2	77.3	56.9
08:00 AM - 09:00 AM	57.4	74.4	56.5
09:00 AM - 10:00 AM	57.0	75.9	56.1
10:00 AM - 11:00 AM	56.7	74.1	55.5

Leq Average 24 hrs. (dB(A)) 58.5  
Lmax (dB(A)) 86.0  
L90 (dB(A)) 56.3  
Ldn (dB(A)) 65.6  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## ภาคผนวก ค.5

คุณภาพน้ำผิวดินในคลองพระองค์ไชยานุชิต



## Analysis / Test Report

TESTING

No.0009

**Lot ID: 2224018**

Date Received : Apr 04, 2022

Date Reported : Apr 11, 2022

Report Number : 2240166-1

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location:** GNNK

Page 1 of 3

<b>Sample Number</b>	2224018-1
<b>Sampled Date</b>	Apr 04, 2022 10:35 AM
<b>Sample Description</b>	Surface water
<b>Location</b>	คลองพระองค์ไชยานุชิต ที่ 1กม. เหนือจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ (GPS 47P 710323, 1525730)
<b>Date Analysis Commenced</b>	Apr 05, 2022
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2	2	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	2.4	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.1	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	28.5	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	0.2	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	450	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	29	No Standard	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** 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)

n': Change from Natural condition not more than 3 degree C

**Sampled By :** Chulladet Warin

Remark :

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

Approved by

Siriluk P.

Siriluk Puengpang  
Supervisor

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## Analysis / Test Report

TESTING

No.0009

**Lot ID: 2224018**

Date Received : Apr 04, 2022

Date Reported : Apr 11, 2022

Report Number : 2240166-1

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location:** GNNK

Page 2 of 3

<b>Sample Number</b>	2224018-2						
<b>Sampled Date</b>	Apr 04, 2022 11:05 AM						
<b>Sample Description</b>	Surface water						
<b>Location</b>	คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำของโครงการฯ (GPS 47P 710160, 1525520)						
<b>Date Analysis Commenced</b>	Apr 05, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2	3	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	4.4	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.1	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	28.6	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	<0.1	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	216	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	17	No Standard	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** 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)

n': Change from Natural condition not more than 3 degree C

**Sampled By :** Chulladet Warin

Remark :

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

Approved by

Siriluk P.

Siriluk Puengpang  
Supervisor

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## Analysis / Test Report

TESTING

No.0009

**Lot ID: 2224018**

Date Received : Apr 04, 2022

Date Reported : Apr 11, 2022

Report Number : 2240166-1

**Client :** Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location:** GNNK

Page 3 of 3

<b>Sample Number</b>	2224018-3						
<b>Sampled Date</b>	Apr 04, 2022 11:30 AM						
<b>Sample Description</b>	Surface water						
<b>Location</b>	คลองพระองค์ไชยานุชิต ที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ (GPS 47P 7100076, 1525424)						
<b>Date Analysis Commenced</b>	Apr 05, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2	3	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	3.8	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	<3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	29.2	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	<0.1	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	260	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	20	No Standard	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** 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)

n': Change from Natural condition not more than 3 degree C

**Sampled By :** Chulladet Warin

Remark :

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

Approved by

Siriluk P.

Siriluk Puengpang  
Supervisor

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## ภาคผนวก ค.6

ทรัพยากรชีวภาพในคลองพระองค์ไชยานุชิต



สถานีวิจัยประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ  
อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

รายงานผลการวิเคราะห์แพลงก์ตอนพืช

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 4 เมษายน 2565)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อดูบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
<b>Division Cyanophyta</b>			
<b>Class Cyanophyceae</b>			
<b>Order Nostocales</b>			
<b>Family Oscillatoriaceae</b>			
1. <i>Lyngbya contorta</i>	148,000	362,000	178,000
2. <i>Oscillatoria</i> sp.	530,000	113,000	223,000
3. <i>Oscillatoria tenuis</i>	-	68,000	379,000
<b>Family Nostocaceae</b>			
4. <i>Raphidiopsis mediterranea</i>	-	340,000	223,000
<b>Division Chlorophyta</b>			
<b>Class Chlorophyceae</b>			
<b>Order Volvocales</b>			
<b>Family Volvocaceae</b>			
5. <i>Eudorina elegans</i>	254,000	408,000	89,000

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 4 เมษายน 2565)**

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
6. <i>Pandorina morum</i>	360,000	249,000	-
7. <i>Volvox aureus</i>	64,000	23,000	-
<b>Order Chlorococcales</b>			
<b>Family Chlorrococcaceae</b>			
8. <i>Golenkinia radiata</i>	64,000	-	-
<b>Family Hydrodictyaceae</b>			
9. <i>Pediastrum duplex</i>	-	113,000	67,000
10. <i>Pediastrum simplex</i>	678,000	1,359,000	1,004,000
<b>Family Coelastraceae</b>			
11. <i>Coelastrum microporum</i>	127,000	-	-
<b>Family Oocystaceae</b>			
12. <i>Oocystis elliptica</i>	-	45,000	-
13. <i>Tetraedron gracile</i>	106,000	-	-
<b>Family Scenedesmaceae</b>			
14. <i>Actinastrum hantzschii</i>	-	45,000	45,000
15. <i>Crucigenia apiculata</i>	-	340,000	-
16. <i>Scenedesmus armatus</i>	-	159,000	22,000
17. <i>Scenedesmus dimorphus</i>	-	68,000	67,000
18. <i>Scenedesmus opoliensis</i>	85,000	294,000	446,000
19. <i>Scenedesmus</i> sp.	-	-	67,000
<b>Order Zygomatales</b>			
<b>Family Desmidiaceae</b>			
20. <i>Closterium gracile</i>	-	23,000	-
21. <i>Closterium kuetzingii</i>	-	-	45,000
22. <i>Closterium ralfsii</i>	106,000	68,000	22,000
23. <i>Closterium setaceum</i>	-	-	112,000
24. <i>Staurastrum gracile</i>	297,000	45,000	-

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 4 เมษายน 2565)**

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
<b>Class Euglenophyceae</b>			
<b>Order Euglenales</b>			
<b>Family Euglenaceae</b>			
25. <i>Euglena acus</i>	170,000	951,000	803,000
26. <i>Euglena oxyuris</i>	339,000	1,087,000	268,000
27. <i>Euglena viridis</i>	148,000	634,000	-
28. <i>Lepocinclis ovum</i>	488,000	1,133,000	45,000
29. <i>Phacus angulatus</i>	233,000	725,000	89,000
30. <i>Phacus hamatus</i>	42,000	159,000	156,000
31. <i>Phacus longicauda</i>	85,000	181,000	245,000
32. <i>Phacus myersi</i>	64,000	136,000	-
33. <i>Phacus</i> sp.	-	227,000	156,000
34. <i>Phacus tortus</i>	42,000	91,000	268,000
35. <i>Strombomonas australica</i>	-	-	245,000
36. <i>Strombomonas fluviatilis</i>	191,000	227,000	89,000
37. <i>Strombomonas gibborosa</i>	21,000	453,000	-
38. <i>Strombomonas girardiana</i>	178,000	340,000	45,000
39. <i>Trachelomonas crebea</i>	-	-	112,000
40. <i>Trachelomonas hispida</i>	212,000	317,000	201,000
<b>Division Chromophyta</b>			
<b>Class Bacillariophyceae</b>			
<b>Order Biddulphiales</b>			
<b>Suborder Coscinodiscineae</b>			
<b>Family Thalassiosiraceae</b>			
41. <i>Cyclotella stelligera</i>	4,410,000	4,258,000	1,695,000
<b>Family Aulacoseiraceae</b>			
42. <i>Aulacoseira baicalensis</i>	4,494,000	10,510,000	6,958,000

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 4 เมษายน 2565)**

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
43. <i>Aulacoseira granulata</i>	1,018,000	1,170,000	981,000
<b>Order Bacillariales</b>			
<b>Suborder Fragilariineae</b>			
<b>Family Fragilariaceae</b>			
44. <i>Fragilaria capucina</i>	276,000	204,000	535,000
45. <i>Synedra acus</i>	64,000	294,000	223,000
46. <i>Synedra ulna</i>	-	272,000	89,000
<b>Suborder Bacillariineae</b>			
<b>Family Eunotiaceae</b>			
47. <i>Eunotia pectinalis</i>	424,000	997,000	624,000
<b>Family Achnantheaceae</b>			
48. <i>Cocconeis hustedtii</i>	-	-	22,000
<b>Family Cymbellaceae</b>			
49. <i>Gomphonema parvulum</i>	-	159,000	134,000
<b>Family Naviculaceae</b>			
50. <i>Diploneis bombus</i>	-	-	22,000
51. <i>Gyrosigma attenuatum</i>	85,000	-	-
52. <i>Pinnularia grunowii</i>	-	23,000	-
<b>Family Bacillariaceae</b>			
53. <i>Nitzschia</i> sp.	-	-	67,000
<b>Family Rhopalodiaceae</b>			
54. <i>Rhopalodia gibba</i>	-	-	45,000
<b>Family Surirellaceae</b>			
55. <i>Surirella elegans</i>	21,000	23,000	67,000
56. <i>Surirella robusta</i>	-	23,000	-



**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 4 เมษายน 2565)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
<b>Class Dinophyceae</b>			
<b>Order Peridinales</b>			
<b>Family Peridiniaceae</b>			
57. <i>Peridinium gatunense</i>	64,000	544,000	-
58. <i>Peridinium</i> sp.	-	-	67,000
<b>ชนิดแพลงก์ตอนพืช</b>	<b>34</b>	<b>44</b>	<b>42</b>
<b>ปริมาณแพลงก์ตอนพืช</b>	<b>15,888,000</b>	<b>29,260,000</b>	<b>17,240,000</b>
<b>ดัชนีความหลากหลายแพลงก์ตอนพืช</b>	<b>2.4276</b>	<b>2.6149</b>	<b>2.5285</b>
<b>ดัชนีความสม่ำเสมอแพลงก์ตอนพืช</b>	<b>0.6884</b>	<b>0.6910</b>	<b>0.6765</b>


**Sample Location :**

1. สถานี 2224042-1 : คลองพระองค์ไชยานุชิต ที่ 1 กม. เหนือจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
2. สถานี 2224042-2 : คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำของโครงการฯ
3. สถานี 2224042-3 : คลองพระองค์ไชยานุชิต ที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ

**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 : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

รายงานผลการวิเคราะห์แหล่งกักต่อน้ำ

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 4 เมษายน 2565)

ชนิดแหล่งกักต่อน้ำ	ปริมาณแหล่งกักต่อน้ำ (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
<b>Phylum Protozoa</b>			
<b>Subphylum Plasmodroma</b>			
<b>Class Sarcodina</b>			
<b>Subclass Rhizopoda</b>			
<b>Order Testacida</b>			
<b>Family Diffugiidae</b>			
1. <i>Diffugia acuminata</i>	-	91,000	134,000
2. <i>Diffugia lobostoma</i>	-	23,000	-
<b>Family Euglyphidae</b>			
3. <i>Euglypha acanthophora</i>	-	-	67,000
4. <i>Euglypha rotunda</i>	21,000	-	-
<b>Subclass Peritricha</b>			
<b>Order Peritrichida</b>			
5. <i>Vorticella</i> sp.	21,000	-	-

**ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 4 เมษายน 2565)**

(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
<b>Phylum Rotifera</b>			
<b>Class Monogononta</b>			
<b>Order Ploima</b>			
<b>Family Brachionidae</b>			
6. <i>Brachionus caudatus</i>	-	-	22,000
7. <i>Brachionus facatus</i>	-	-	22,000
8. <i>Lepadella acuminata</i>	42,000	-	-
<b>Family Lecanidae</b>			
9. <i>Lecane</i> sp.	-	-	22,000
<b>Family Tricercidae</b>			
10. <i>Trichocerca pusilla</i>	-	45,000	-
<b>Family Synchaetidae</b>			
11. <i>Polyarthra vulgaris</i>	276,000	159,000	112,000
<b>Order Flosculariacea</b>			
<b>Family Flosculariidae</b>			
12. <i>Filinia terminalis</i>	42,000	23,000	45,000
<b>Family Hexarthridae</b>			
13. <i>Hexarthra mira</i>	64,000	23,000	-
<b>Class Digononta</b>			
<b>Family Philodinidae</b>			
14. <i>Ratatoria rotatoria</i>	64,000	23,000	22,000
<b>Phylum Arthropoda</b>			
<b>Class Crustacea</b>			
<b>Subclass Copepoda</b>			
15. Copepod nauplii	21,000	91,000	22,000
<b>Order Cyclopoida</b>			
16. Cyclopoid copepod	-	-	89,000

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 4 เมษายน 2565)

(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	2224042-1	2224042-2	2224042-3
Order Harpacticoida			
Family Ectinosomidae			
17. <i>Microsetella</i> sp.	-	23,000	-
ชนิดแพลงก์ตอนสัตว์	8	9	10
ปริมาณแพลงก์ตอนสัตว์	551,000	501,000	557,000
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	1.6124	1.9076	2.0545
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.7754	0.8682	0.8923

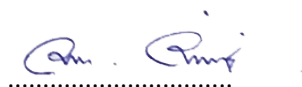
**Sample Location :**

1. สถานี 2224042-1 : คลองพระองค์ไชยานุชิต ที่ 1กม. เหนือจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
2. สถานี 2224042-2 : คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
3. สถานี 2224042-3 : คลองพระองค์ไชยานุชิต ที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ

**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 : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chacheungsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

#### รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 4 เมษายน 2565)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัว/ตารางเมตร)		
	2224055-1	2224055-2	2224055-3
<b>Phylum Mollusca</b>			
<b>Class Gastropoda</b>			
<b>Order Architenioglossa</b>			
<b>Family Bithyniidae</b>			
<i>Bithynia</i> sp. (หอยโข่ง)	-	15	-
<b>Family Thiaridae</b>			
<i>Tarebia</i> sp. (หอยเจดีย์)	-	30	149
<b>Family Viviparidae</b>			
<i>Filopaludina</i> sp. (หอยขม)	-	15	60
<i>Trochotaia</i> sp. (หอยเวียน)	-	15	-
<b>Class Bivalvia</b>			
<b>Order Unionida</b>			
<b>Family Unionidae</b>			
<i>Pilsbryconcha</i> sp. (หอยกาบ)	-	15	-

**ตาราง ผลการวิเคราะห์สัณ्ฑ์หน้าดิน (เก็บตัวอย่างวันที่ 4 เมษายน 2565) (ต่อ)**

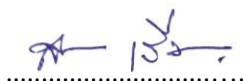
ชนิดสัณ्ฑ์หน้าดิน	ปริมาณสัณ्ฑ์หน้าดิน (ตัว/ตารางเมตร)		
	2224055-1	2224055-2	2224055-3
รวมจำนวนสัณ्ฑ์ที่พบทั้งหมด	-	5	2
รวมปริมาณที่พบทั้งหมด	-	90	209
ค่าดัชนีความหลากหลาย	-	1.5607	0.5995

**Sample Location :** 1. สถานี 2224055-1 : คลองพระองค์ไชยานุชิตที่ 1 กม. เหนือจุดสูบน้ำและจุดระบายน้ำของโครงการฯ

2. สถานี 2224055-2 : คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำของโครงการฯ

3. สถานี 2224055-3 : คลองพระองค์ไชยานุชิตที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำของโครงการฯ

**Condition of Sample :** contained in one plastic zip bag



(นายสาโรจน์ เริ่มคำริห์)

ผู้วิเคราะห์



(นายอลงกต อินทรชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา

## ภาคผนวก ค.7

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คุณภาพน้ำทิ้งจากบ่อกักน้ำทิ้ง





## Analysis / Test Report

TESTING  
No.0009

**Client** : Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O** : สัญญาเลขที่ 4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 21139173**  
Date Received : Jan 04, 2022  
Date Reported : Jan 11, 2022  
Report Number : 2158523-1 C13-1

Page 1 of 1

<b>Sample Number</b>	21139173-1						
<b>Sampled Date</b>	Jan 04, 2022 10:47 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Jan 05, 2022						
<b>Condition of Sample</b>	Contained in one amber glass bottle, three plastic bottles and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.8	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	27.4	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	912	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	13	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline** : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By** : Chulladet Warin

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.

Technical Management

Siriluk P.

Siriluk Puengpang

Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 21139173**

Date Received : Jan 04, 2022  
Date Reported : Jan 11, 2022  
Report Number : 2158523-2 C13-1

Page 1 of 1

<b>Sample Number</b>	21139173-1						
<b>Sampled Date</b>	Jan 04, 2022 10:47 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Jan 05, 2022						
<b>Condition of Sample</b>	Contained in one amber glass bottle, three plastic bottles and two BOD 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>							
Calcium	meq/L	0.0005	0.005	3.28	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.008	2.94	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR		-	-	4.35	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.0005	0.005	7.66	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1488	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Chulladet Warin

Remark :

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

Approved by

*Sawitree N.*

Sawitree Noisangiam  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0009

**Lot ID: 21145978**

Date Received : Feb 07, 2022

Date Reported : Feb 15, 2022

Report Number : 2175794-1 C13-1

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location:** GNNK

Page 1 of 1

<b>Sample Number</b>	21145978-1						
<b>Sampled Date</b>	Feb 07, 2022 9:55 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Feb 08, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, three plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	3	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.4	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	29.5	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	836	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	6	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Thanwa Jariya

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.

Technical Management

*Siriluk P.*

Siriluk Puengpang

Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0009

**Lot ID: 21145978**

Date Received : Feb 07, 2022

Date Reported : Feb 15, 2022

Report Number : 2175794-2 C13-1

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000

**P/O :** สัญญาเลขที่4600001497

**Project Name :** Monitoring EIA

**Project Location:** GNNK

Page 1 of 1

<b>Sample Number</b>	21145978-1						
<b>Sampled Date</b>	Feb 07, 2022 9:55 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Feb 08, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, three plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	meq/L	0.003	0.005	3.15	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium *	meq/L	0.003	0.005	2.84	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	-	4.67	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium *	meq/L	0.003	0.005	8.08	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1485	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Thanwa Jariya

Remark :

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

*Sawitree N.*

Sawitree Noisangiam  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2214557**

Date Received : Mar 07, 2022  
Date Reported : Mar 15, 2022  
Report Number : 2220864-1 C13-1

Page 1 of 1

<b>Sample Number</b>	2214557-1						
<b>Sampled Date</b>	Mar 07, 2022 11:20 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Mar 08, 2022						
<b>Condition of Sample</b>	Contained in one amber glass bottle, five plastic bottles, two BOD bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	3	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.6	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	30.5	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	840	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	20	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Chulladet Warin

Remark :

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

Technical Management

*Sawitree N.*

Sawitree Noisangiam

Assistant Manager

ทะเบียนเลขที่ ว-204-จ-4709

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2214557**

Date Received : Mar 07, 2022  
Date Reported : Mar 15, 2022  
Report Number : 2220864-2 C13-1

Page 1 of 1

<b>Sample Number</b>	2214557-1						
<b>Sampled Date</b>	Mar 07, 2022 11:20 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Mar 08, 2022						
<b>Condition of Sample</b>	Contained in one amber glass bottle, five plastic bottles, two BOD bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	meq/L	0.003	0.005	3.27	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.43	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR		-	-	4.49	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	7.58	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1491	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Chulladet Warin

Remark :

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Approved by

*Sawitree N.*

Sawitree Noisangiam  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client** : Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2224027**

Date Received : Apr 04, 2022  
Date Reported : Apr 11, 2022  
Report Number : 2240185-1 C13-1

Page 1 of 1

<b>Sample Number</b>	2224027-1						
<b>Sampled Date</b>	Apr 04, 2022 10:05 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Apr 05, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	3	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.5	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	27.7	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	928	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline** : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By** : Chulladet Warin

Remark :

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

Siriluk P.

Siriluk Puengpang  
Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2224027**

Date Received : Apr 04, 2022  
Date Reported : Apr 11, 2022  
Report Number : 2240185-2 C13-1

Page 1 of 1

<b>Sample Number</b>	2224027-1						
<b>Sampled Date</b>	Apr 04, 2022 10:05 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Apr 05, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	meq/L	0.003	0.005	3.15	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.70	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR		-	-	4.59	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	7.86	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1408	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Chulladet Warin

Remark :

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

Approved by

*Sawitree N.*

Sawitree Noisangiam  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2240577**

Date Received : May 03, 2022  
Date Reported : May 11, 2022  
Report Number : 2275109-1 C13-1

Page 1 of 1

<b>Sample Number</b>	2240577-1						
<b>Sampled Date</b>	May 03, 2022 11:25 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	May 04, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	<2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.2	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	28.8	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1052	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Thanwa Jariya

Remark :

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

Siriluk P.

Siriluk Puengpang

Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client** : Gulf JP NNN Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location**: GNNK

**Lot ID: 2240577**

Date Received : May 03, 2022  
Date Reported : May 11, 2022  
Report Number : 2275109-2 C13-1

Page 1 of 1

<b>Sample Number</b>	2240577-1						
<b>Sampled Date</b>	May 03, 2022 11:25 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	May 04, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	meq/L	0.003	0.005	3.67	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	3.45	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR		-	-	4.61	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	8.70	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1711	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline** : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By** : Thanwa Jariya

Remark :

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

Approved by

*Sawitree N.*

Sawitree Noisangiam  
Assistant Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand  
24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2251507**

Date Received : Jun 06, 2022  
Date Reported : Jun 21, 2022  
Report Number : 2298617-1 C13-1

Page 1 of 1

<b>Sample Number</b>	2251507-1						
<b>Sampled Date</b>	Jun 06, 2022 10:14 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Jun 07, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 degree C)	mg/L	-	2	3	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	8.1	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	31.0	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	932	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤30	Based on APHA (2017), 2540 D	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Anupong Rattanasriprasert

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.

Technical Management

*Chanatt L.*

Chanattagarn Imchom

Supervisor

ทะเบียนเลขที่ ว-204-จ-4710

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

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24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location:** GNNK

**Lot ID: 2251507**

Date Received : Jun 06, 2022  
Date Reported : Jun 21, 2022  
Report Number : 2298617-2 C13-1

Page 1 of 1

<b>Sample Number</b>	2251507-1						
<b>Sampled Date</b>	Jun 06, 2022 10:14 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
<b>Date Analysis Commenced</b>	Jun 07, 2022						
<b>Condition of Sample</b>	Contained in two BOD bottles, two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	meq/L	0.003	0.005	5.28	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.81	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR		-	-	3.19	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	6.42	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
<b>Water Testing</b>							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1403	No Standard	Based on APHA (2017), 2510 B	Bangkok

**Guideline :** Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

**Sampled By :** Anupong Rattanasriprasert

Remark :

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

Approved by

*Chamatt L.*

Chanattagarn Imchom  
Supervisor

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022  
Date Reported : Apr 08, 2022  
Report Number: 2283807-1

Page 1 of 1

**Sample Number** 2214561-1  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Gas Turbine 1  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:13 AM - 10:13 AM	70.2	73.5	69.1
10:13 AM - 11:13 AM	69.8	74.4	69.0
11:13 AM - 12:13 PM	69.7	79.1	68.8
12:13 PM - 01:13 PM	69.4	73.7	68.6
01:13 PM - 02:13 PM	69.6	74.6	68.7
02:13 PM - 03:13 PM	69.9	72.6	69.0
03:13 PM - 04:13 PM	70.7	84.2	69.3
04:13 PM - 05:13 PM	69.9	74.2	69.1

Leq Average 8 hrs. (dB(A))

69.9

Lmax (dB(A))

84.2

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022

Date Reported : Apr 08, 2022

Report Number: 2283808-1

Page 1 of 1

**Sample Number** 2214561-2  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Gas Turbine 2  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:18 AM - 10:18 AM	74.0	92.2	72.6
10:18 AM - 11:18 AM	73.9	77.6	72.7
11:18 AM - 12:18 PM	73.9	78.1	72.8
12:18 PM - 01:18 PM	74.0	78.2	72.8
01:18 PM - 02:18 PM	73.6	78.3	72.7
02:18 PM - 03:18 PM	73.8	78.2	72.7
03:18 PM - 04:18 PM	73.5	77.3	72.7
04:18 PM - 05:18 PM	74.1	92.3	72.7

Leq Average 8 hrs. (dB(A))

73.9

Lmax (dB(A))

92.3

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022  
Date Reported : Apr 08, 2022  
Report Number: 2283809-1

Page 1 of 1

**Sample Number** 2214561-3  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Steam Turbine  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:03 AM - 10:03 AM	71.4	94.5	70.0
10:03 AM - 11:03 AM	73.5	105.1	69.9
11:03 AM - 12:03 PM	70.2	74.0	69.9
12:03 PM - 01:03 PM	70.1	72.1	69.8
01:03 PM - 02:03 PM	70.1	76.4	69.8
02:03 PM - 03:03 PM	70.1	82.6	69.9
03:03 PM - 04:03 PM	70.2	74.0	70.0
04:03 PM - 05:03 PM	70.4	86.9	70.0

Leq Average 8 hrs. (dB(A))

70.9

Lmax (dB(A))

105.1

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022  
Date Reported : Apr 08, 2022  
Report Number: 2283810-1

Page 1 of 1

**Sample Number** 2214561-4  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ HRSG 1  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:15 AM - 10:15 AM	77.4	84.2	77.0
10:15 AM - 11:15 AM	77.4	78.6	76.9
11:15 AM - 12:15 PM	77.3	78.9	77.0
12:15 PM - 01:15 PM	77.3	78.6	76.9
01:15 PM - 02:15 PM	77.3	78.8	76.8
02:15 PM - 03:15 PM	77.7	78.9	77.3
03:15 PM - 04:15 PM	77.6	79.1	77.2
04:15 PM - 05:15 PM	77.8	79.0	77.4

Leq Average 8 hrs. (dB(A)) 77.5  
Lmax (dB(A)) 84.2  
Standard (dB(A)) 90  
Reference Method : Based on ISO1996-1 and 1996-2  
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022  
Date Reported : Apr 08, 2022  
Report Number: 2283811-1

Page 1 of 1

**Sample Number** 2214561-5  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ HRSG 2  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:59 AM - 09:59 AM	76.8	81.1	76.4
09:59 AM - 10:59 AM	76.6	78.2	76.2
10:59 AM - 11:59 AM	76.5	78.3	76.1
11:59 AM - 12:59 PM	76.4	77.6	76.0
12:59 PM - 01:59 PM	76.4	78.1	76.1
01:59 PM - 02:59 PM	76.6	77.7	76.2
02:59 PM - 03:59 PM	76.7	77.7	76.3
03:59 PM - 04:59 PM	76.8	78.4	76.4

Leq Average 8 hrs. (dB(A))

76.6

Lmax (dB(A))

81.1

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214561**

Date Received : Apr 02, 2022  
Date Reported : Apr 08, 2022  
Report Number: 2283812-1

Page 1 of 1

**Sample Number** 2214561-6  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Cooling Tower  
**Measurement Date** Apr 02, 2022  
**Measurement by** Pheeraphong Thongkhunpida

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:07 AM - 10:07 AM	74.6	76.9	74.3
10:07 AM - 11:07 AM	74.5	75.7	74.2
11:07 AM - 12:07 PM	74.5	76.3	74.2
12:07 PM - 01:07 PM	74.5	75.2	74.2
01:07 PM - 02:07 PM	74.4	75.7	74.1
02:07 PM - 03:07 PM	74.5	76.4	74.1
03:07 PM - 04:07 PM	74.5	76.2	74.2
04:07 PM - 05:07 PM	74.7	76.0	74.4

Leq Average 8 hrs. (dB(A))

74.5

Lmax (dB(A))

76.9

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

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**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022

Date Reported : Jun 15, 2022

Report Number: 2345876-1

Page 1 of 1

**Sample Number** 2251435-1  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Gas Turbine 1  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:52 AM - 09:52 AM	70.7	76.3	67.9
09:52 AM - 10:52 AM	72.9	79.7	71.2
10:52 AM - 11:52 AM	72.2	75.5	69.9
11:52 AM - 12:52 PM	70.0	73.5	69.4
12:52 PM - 01:52 PM	70.2	72.6	69.6
01:52 PM - 02:52 PM	70.8	73.0	70.1
02:52 PM - 03:52 PM	70.6	73.2	70.0
03:52 PM - 04:52 PM	70.9	74.2	70.3

Leq Average 8 hrs. (dB(A))

71.1

Lmax (dB(A))

79.7

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022  
Date Reported : Jun 15, 2022  
Report Number: 2345877-1

Page 1 of 1

**Sample Number** 2251435-2  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Gas Turbine 2  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:39 AM - 09:39 AM	71.6	77.7	71.3
09:39 AM - 10:39 AM	71.9	77.3	71.1
10:39 AM - 11:39 AM	74.8	79.0	73.5
11:39 AM - 12:39 PM	74.5	80.8	73.1
12:39 PM - 01:39 PM	75.0	79.2	73.7
01:39 PM - 02:39 PM	72.2	77.6	71.4
02:39 PM - 03:39 PM	72.5	78.6	72.2
03:39 PM - 04:39 PM	74.4	78.6	73.1

Leq Average 8 hrs. (dB(A))

73.6

Lmax (dB(A))

80.8

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Technical Management**

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

**Approved by**

*Supot S.*

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022

Date Reported : Jun 15, 2022

Report Number: 2345878-1

Page 1 of 1

**Sample Number** 2251435-3  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Steam Turbine  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:46 AM - 09:46 AM	75.0	75.8	74.9
09:46 AM - 10:46 AM	75.1	75.9	74.9
10:46 AM - 11:46 AM	75.2	78.6	75.0
11:46 AM - 12:46 PM	75.3	76.0	75.0
12:46 PM - 01:46 PM	75.1	75.9	74.9
01:46 PM - 02:46 PM	75.1	76.0	74.9
02:46 PM - 03:46 PM	75.0	75.9	74.9
03:46 PM - 04:46 PM	75.0	75.9	74.9

Leq Average 8 hrs. (dB(A))

75.1

Lmax (dB(A))

78.6

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022  
Date Reported : Jun 15, 2022  
Report Number: 2345879-1

Page 1 of 1

**Sample Number** 2251435-4  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ HRSG 1  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:55 AM - 09:55 AM	77.3	78.7	76.6
09:55 AM - 10:55 AM	76.9	77.9	76.6
10:55 AM - 11:55 AM	76.7	78.4	76.3
11:55 AM - 12:55 PM	76.9	79.1	76.6
12:55 PM - 01:55 PM	77.1	78.8	76.8
01:55 PM - 02:55 PM	77.4	81.3	77.1
02:55 PM - 03:55 PM	77.4	78.3	77.1
03:55 PM - 04:55 PM	77.4	78.6	77.1

Leq Average 8 hrs. (dB(A))

77.1

Lmax (dB(A))

81.3

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022  
Date Reported : Jun 15, 2022  
Report Number: 2345880-1

Page 1 of 1

**Sample Number** 2251435-5  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ HRSG 2  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:42 AM - 09:42 AM	76.6	78.4	76.1
09:42 AM - 10:42 AM	76.6	77.9	76.2
10:42 AM - 11:42 AM	76.6	77.8	76.2
11:42 AM - 12:42 PM	76.4	77.7	76.1
12:42 PM - 01:42 PM	76.5	77.7	76.2
01:42 PM - 02:42 PM	76.4	78.0	76.1
02:42 PM - 03:42 PM	76.4	77.3	76.1
03:42 PM - 04:42 PM	76.6	77.7	76.3

Leq Average 8 hrs. (dB(A))

76.5

Lmax (dB(A))

78.4

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251435**

Date Received : Jun 11, 2022  
Date Reported : Jun 15, 2022  
Report Number: 2345881-1

Page 1 of 1

**Sample Number** 2251435-6  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Cooling Tower  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:45 AM - 09:45 AM	71.0	71.8	70.9
09:45 AM - 10:45 AM	71.1	72.6	71.0
10:45 AM - 11:45 AM	71.0	72.1	70.8
11:45 AM - 12:45 PM	71.0	72.3	70.7
12:45 PM - 01:45 PM	70.9	72.4	70.6
01:45 PM - 02:45 PM	71.0	72.6	70.8
02:45 PM - 03:45 PM	70.8	72.0	70.6
03:45 PM - 04:45 PM	71.0	72.4	70.8

Leq Average 8 hrs. (dB(A))

71.0

Lmax (dB(A))

72.6

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.

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Thailand 24000

**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 1 of 7

**Sample Number** 2214575-1

**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)

**Measurement Date** Apr 02, 2022

**Measurement by** Phongsiri Somkaew

**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	23.1	20.9	28.5	27.9
Average (WBGT)		23.1			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

**Technical Management**

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**Approved by**

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Assistant Manager

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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 2 of 7

**Sample Number** 2214575-2

**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)

**Measurement Date** Apr 02, 2022

**Measurement by** Phongsiri Somkaew

**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณท่อส่งน้ำ	120	23.7	21.0	30.0	29.9
Average (WBGT)		23.7			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

**Technical Management**

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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 3 of 7

**Sample Number** 2214575-3  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Apr 02, 2022  
**Measurement by** Phongsiri Somkaew  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 1	120	23.8	21.0	31.2	28.9
Average (WBGT)		23.8			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 4 of 7

**Sample Number** 2214575-4  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Apr 02, 2022  
**Measurement by** Phongsiri Somkaew  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 2	120	24.8	21.7	32.2	32.1
Average (WBGT)		24.8			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 5 of 7

**Sample Number** 2214575-5

**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)

**Measurement Date** Apr 02, 2022

**Measurement by** Phongsiri Somkaew

**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 1	120	23.5	20.8	30.1	28.9
Average (WBGT)		23.5			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 6 of 7

**Sample Number** 2214575-6

**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)

**Measurement Date** Apr 02, 2022

**Measurement by** Phongsiri Somkaew

**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 2	120	24.0	21.3	30.7	29.0
Average (WBGT)		24.0			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**P/O :**

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2214575**

Date Received : Apr 04, 2022

Date Reported : Apr 06, 2022

Report Number: 2220884-1

Page 7 of 7

**Sample Number** 2214575-7  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Apr 02, 2022  
**Measurement by** Phongsiri Somkaew  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณภายนอกอาคาร	120	22.7	20.6	27.8	27.0
Average (WBGT)		22.7			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

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Supot Salamteh  
Section Head

**Approved by**

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Assistant Manager

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## Analysis / Test Report

**Client :** Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao  
Thailand 24000  
**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

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**Sample Number** 2251442-1  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	29.5	27.0	35.5	35.2
Average (WBGT)		29.5			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

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## Analysis / Test Report

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Thailand 24000  
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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

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**Sample Number** 2251442-2  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณท่อส่งน้ำ	120	29.3	26.8	35.5	34.5
Average (WBGT)		29.3			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

Page 3 of 7

**Sample Number** 2251442-3  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 1	120	30.7	27.2	40.3	36.4
Average (WBGT)		30.7			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**  
Date Received : Jun 11, 2022  
Date Reported : Jun 14, 2022  
Report Number: 2298458-1

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**Sample Number** 2251442-4  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 2	120	31.8	27.8	42.4	38.4
Average (WBGT)		31.8			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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## Analysis / Test Report

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Thailand 24000

**P/O :** สัญญาเลขที่ 4600001497

**Project Name :** Monitoring EIA

**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

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**Sample Number** 2251442-5  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 1	120	29.8	27.0	36.9	35.5
Average (WBGT)		29.8			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**P/O :** สัญญาเลขที่ 4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

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**Sample Number** 2251442-6  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 2	120	29.9	27.0	37.1	35.7
Average (WBGT)		29.9			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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Thailand 24000  
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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251442**

Date Received : Jun 11, 2022

Date Reported : Jun 14, 2022

Report Number: 2298458-1

Page 7 of 7

**Sample Number** 2251442-7  
**Parameter** Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)  
**Measurement Date** Jun 10, 2022  
**Measurement by** Samart Roongan  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : - )

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณภายนอกอาคาร	120	29.6	27.1	35.6	35.1
Average (WBGT)		29.6			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

**Guideline:**

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
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**Technical Management**

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214580**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282921-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 1 st floor : Cable Room									
1.1	2214580-1	2 Apr 2022	Day time	1	495	444.8	100	200	Pass
1.2	2214580-2	2 Apr 2022	Day time	2	485				
1.3	2214580-3	2 Apr 2022	Day time	3	410				
1.4	2214580-4	2 Apr 2022	Day time	4	389				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214581**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282924-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 2nd floor : Electrical Room									
1.1	2214581-1	2 Apr 2022	Day time	1	402	402.5	100	200	Pass
1.2	2214581-2	2 Apr 2022	Day time	2	389				
1.3	2214581-3	2 Apr 2022	Day time	3	378				
1.4	2214581-4	2 Apr 2022	Day time	4	441				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214582**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282926-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3 rd floor : Barthroom-Lady (T-04)									
1.1	2214582-1	2 Apr 2022	Day time	1	855	943.5	50	100	Pass
1.2	2214582-2	2 Apr 2022	Day time	2	1,032				
Area - Electrical and Control Building : 3 rd floor : Broom Closet									
2.1	2214582-3	2 Apr 2022	Day time	1	560	615.0	50	100	Pass
2.2	2214582-4	2 Apr 2022	Day time	2	670				
Area - Electrical and Control Building : 3 rd floor : Canteen									
3.1	2214582-5	2 Apr 2022	Day time	1	601	628.5	150	300	Pass
3.2	2214582-6	2 Apr 2022	Day time	2	656				
Spot - Electrical and Control Building : 3 rd floor : Control Room #1									
4	2214582-7	2 Apr 2022	Day time	1	497	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #2									
5	2214582-8	2 Apr 2022	Day time	1	416	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #3									
6	2214582-9	2 Apr 2022	Day time	1	745	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #4									
7	2214582-10	2 Apr 2022	Day time	1	757	-	400-500	-	Pass
Area - Electrical and Control Building : 3 rd floor : Documnet Room									
8.1	2214582-11	2 Apr 2022	Day time	1	562	680.5	150	300	Pass
8.2	2214582-12	2 Apr 2022	Day time	2	799				
Area - Electrical and Control Building : 3 rd floor : DSC Room									
9.1	2214582-13	2 Apr 2022	Day time	1	441	322.0	100	200	Pass
9.2	2214582-14	2 Apr 2022	Day time	2	290				
9.3	2214582-15	2 Apr 2022	Day time	3	235				
Area - Electrical and Control Building : 3 rd floor : Engineering Work Satation Room									
10.1	2214582-16	2 Apr 2022	Day time	1	927	861.3	100	200	Pass
10.2	2214582-17	2 Apr 2022	Day time	2	930				
10.3	2214582-18	2 Apr 2022	Day time	3	727				
Spot - Electrical and Control Building : 3 rd floor : Operation Manager									
11	2214582-19	2 Apr 2022	Day time	1	427	-	400-500	-	Pass
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-01)									
12.1	2214582-20	2 Apr 2022	Day time	1	536	488.5	50	100	Pass
12.2	2214582-21	2 Apr 2022	Day time	2	441				

Technical Management

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214582**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282926-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-03)									
13.1	2214582-22	2 Apr 2022	Day time	1	799	858.5	50	100	Pass
13.2	2214582-23	2 Apr 2022	Day time	2	918				
Area - Electrical and Control Building : 3 rd floor : Restroom-Lady (T-02)									
14.1	2214582-24	2 Apr 2022	Day time	1	1,026	1,206	50	100	Pass
14.2	2214582-25	2 Apr 2022	Day time	2	1,385				
Area - Electrical and Control Building : 3 rd floor : Up-down Main Way (Stair)									
20.1	2214582-26	2 Apr 2022	Day time	1	754	755.0	50	100	Pass
20.2	2214582-27	2 Apr 2022	Day time	2	756				
Area - Electrical and Control Building : 3 rd floor : Up-down Way (Exit Way)									
21.1	2214582-28	2 Apr 2022	Day time	1	646	818.0	50	100	Pass
21.2	2214582-29	2 Apr 2022	Day time	2	990				
Area - Electrical and Control Building : 3 rd floor : Utility Room									
22.1	2214582-30	2 Apr 2022	Day time	1	249	229.0	100	200	Pass
22.2	2214582-31	2 Apr 2022	Day time	2	209				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214586**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282935-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Water Laboratory : Balance									
1	2214586-1	2 Apr 2022	Day time	1	892	-	400-500	-	Pass
Spot - Water Laboratory : Computer									
2	2214586-2	2 Apr 2022	Day time	1	988	-	400-500	-	Pass
Area - Water Laboratory : Restroom (T-02)									
3.1	2214586-3	2 Apr 2022	Day time	1	257	288.0	50	100	Pass
3.2	2214586-4	2 Apr 2022	Day time	2	319				
Area - Water Laboratory : Rise Floor#1 (Water Treatment)									
4.1	2214586-5	2 Apr 2022	Day time	1	947	958.0	100	200	Pass
4.2	2214586-6	2 Apr 2022	Day time	2	969				
Spot - Water Laboratory : Rise Floor#2 (Water Treatment)									
5	2214586-7	2 Apr 2022	Day time	1	986	-	400-500	-	Pass

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Section Head

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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O :** สัญญาเลขที่4600001497  
**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2214588**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282939-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #1								
	2214588-1	2 Apr 2022	Day time	1	520	-	400-500	-	Pass
2	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #2								
	2214588-2	2 Apr 2022	Day time	1	535	-	400-500	-	Pass
3	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #3								
	2214588-3	2 Apr 2022	Day time	1	845	-	400-500	-	Pass
4.1	Area - Workshop & Warehouse : 2nd floor : Canteen								
	2214588-4	2 Apr 2022	Day time	1	567	592.0	150	300	Pass
	4.2	2214588-5	2 Apr 2022	Day time	2	617			
5.1	Area - Workshop & Warehouse : 2nd floor : Document Center								
	2214588-6	2 Apr 2022	Day time	1	637	669.5	150	300	Pass
	5.2	2214588-7	2 Apr 2022	Day time	2	702			
6	Spot - Workshop & Warehouse : 2nd floor : Electronic Staff Office								
	2214588-8	2 Apr 2022	Day time	1	491	-	400-500	-	Pass
7	Spot - Workshop & Warehouse : 2nd floor : Information Technology (IT)								
	2214588-9	2 Apr 2022	Day time	1	698	-	400-500	-	Pass
9	Spot - Workshop & Warehouse : 2nd floor : Maintenance Manager								
	2214588-10	2 Apr 2022	Day time	1	404	-	400-500	-	Pass
10	Spot - Workshop & Warehouse : 2nd floor : Mechanical Staff Office								
	2214588-11	2 Apr 2022	Day time	1	403	-	400-500	-	Pass
11.1	Area - Workshop & Warehouse : 2nd floor : Meeting Room								
	2214588-12	2 Apr 2022	Day time	1	808	805.5	150	300	Pass
	11.2	2214588-13	2 Apr 2022	Day time	2	803			
12.1	Area - Workshop & Warehouse : 2nd floor : Restroom-Gentlemen (T-03)								
	2214588-14	2 Apr 2022	Day time	1	289	332.0	50	100	Pass
	12.2	2214588-15	2 Apr 2022	Day time	2	375			
13.1	Area - Workshop & Warehouse : 2nd floor : Restroom-Lady (T-04)								
	2214588-16	2 Apr 2022	Day time	1	334	337.5	50	100	Pass
	13.2	2214588-17	2 Apr 2022	Day time	2	341			

**Measurement by :** Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline :** Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214462**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282919-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Administration Building : Broom Closet								
1.1	2214462-1	2 Apr 2022	Day time	1	507	583.5	50	100	Pass
1.2	2214462-2	2 Apr 2022	Day time	2	660				
	Area - Administration Building : Canteen & Pantry								
2.1	2214462-3	2 Apr 2022	Day time	1	873	711.0	150	300	Pass
2.2	2214462-4	2 Apr 2022	Day time	2	549				
	Area - Administration Building : Corridors								
3.1	2214462-5	2 Apr 2022	Day time	1	446	442.5	50	100	Pass
3.2	2214462-6	2 Apr 2022	Day time	2	439				
	Spot - Administration Building : EHS								
4	2214462-7	2 Apr 2022	Day time	1	547	-	400-500	-	Pass
	Area - Administration Building : Frist Aid Room								
5.1	2214462-8	2 Apr 2022	Day time	1	505	557.5	25	50	Pass
5.2	2214462-9	2 Apr 2022	Day time	2	610				
	Spot - Administration Building : General Office #1								
6	2214462-10	2 Apr 2022	Day time	1	640	-	400-500	-	Pass
	Spot - Administration Building : General Office #2								
7	2214462-11	2 Apr 2022	Day time	1	643	-	400-500	-	Pass
	Spot - Administration Building : General Office #3								
8	2214462-12	2 Apr 2022	Day time	1	488	-	400-500	-	Pass
	Spot - Administration Building : General Office #4								
9	2214462-13	2 Apr 2022	Day time	1	405	-	400-500	-	Pass
	Spot - Administration Building : General Office #5								
10	2214462-14	2 Apr 2022	Day time	1	428	-	400-500	-	Pass
	Area - Administration Building : Master Document Room								
12.1	2214462-15	2 Apr 2022	Day time	1	675	686.5	150	300	Pass
12.2	2214462-16	2 Apr 2022	Day time	2	698				
	Area - Administration Building : Meeting Room 1								
13.1	2214462-17	2 Apr 2022	Day time	1	645	703.3	150	300	Pass
13.2	2214462-18	2 Apr 2022	Day time	2	748				
13.3	2214462-19	2 Apr 2022	Day time	3	717				
	Area - Administration Building : Meeting Room 2								
14.1	2214462-20	2 Apr 2022	Day time	1	490	451.5	150	300	Pass
14.2	2214462-21	2 Apr 2022	Day time	2	413				

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214462**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282919-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Administration Building : Office Supply Area									
15.1	2214462-22	2 Apr 2022	Day time	1	480	483.5	50	100	Pass
15.2	2214462-23	2 Apr 2022	Day time	2	487				
Spot - Administration Building : Plant Manager									
16	2214462-24	2 Apr 2022	Day time	1	647	-	400-500	-	Pass
Area - Administration Building : Reception Area									
17.1	2214462-25	2 Apr 2022	Day time	1	478	443.5	150	300	Pass
17.2	2214462-26	2 Apr 2022	Day time	2	409				
Area - Administration Building : Restroom-Gentlemen									
18.1	2214462-27	2 Apr 2022	Day time	1	658	599.0	50	100	Pass
18.2	2214462-28	2 Apr 2022	Day time	2	540				
Area - Administration Building : Restroom-Lady									
19.1	2214462-29	2 Apr 2022	Day time	1	781	770.5	50	100	Pass
19.2	2214462-30	2 Apr 2022	Day time	2	760				
Spot - Administration Building : Spare Office									
20	2214462-31	2 Apr 2022	Day time	1	475	-	400-500	-	Pass
Area - Administration Building : Utility Room									
21.1	2214462-32	2 Apr 2022	Day time	1	705	713.0	100	200	Pass
21.2	2214462-33	2 Apr 2022	Day time	2	721				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214583**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282928-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Guard Room									
1.1	2214583-1	2 Apr 2022	Day time	1	3,120	2,899	-	100	Pass
1.2	2214583-2	2 Apr 2022	Day time	2	2,678				
Area - Guard Room : Restroom (Logger Room)									
2.1	2214583-3	2 Apr 2022	Day time	1	240	244.0	50	100	Pass
2.2	2214583-4	2 Apr 2022	Day time	2	248				
Area - Guard Room : Restroom (T-01)									
3.1	2214583-5	2 Apr 2022	Day time	1	310	313.5	50	100	Pass
3.2	2214583-6	2 Apr 2022	Day time	2	317				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214584**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282930-1

Page 1 of 1

Page 2 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Switchyard Control Building : Battery Room									
1.1	2214584-1	2 Apr 2022	Day time	1	230	230.5	50	100	Pass
1.2	2214584-2	2 Apr 2022	Day time	2	231				
Area - Switchyard Control Building : Control Room #1									
2.1	2214584-3	2 Apr 2022	Day time	1	233	336.0	100	200	Pass
2.2	2214584-4	2 Apr 2022	Day time	2	439				
Area - Switchyard Control Building : Control Room #2									
3.1	2214584-5	2 Apr 2022	Day time	1	1,167	1,168	100	200	Pass
3.2	2214584-6	2 Apr 2022	Day time	2	1,168				
Area - Switchyard Control Building : Switchyard Room									
4.1	2214584-7	2 Apr 2022	Day time	1	280	286.5	100	200	Pass
4.2	2214584-8	2 Apr 2022	Day time	2	293				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214585**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282932-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Terminal Substation : Control Room									
1.1	2214585-1	2 Apr 2022	Day time	1	830	685.0	100	200	Pass
1.2	2214585-2	2 Apr 2022	Day time	2	540				
Area - Terminal Substation : Battery Room									
2.1	2214585-3	2 Apr 2022	Day time	1	224	253.5	50	100	Pass
2.2	2214585-4	2 Apr 2022	Day time	2	283				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214587**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282937-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Workshop & Warehouse : 1st floor : C & I Lab Room								
1.1	2214587-1	2 Apr 2022	Day time	1	588	620.0	50	100	Pass
1.2	2214587-2	2 Apr 2022	Day time	2	652				
	Area - Workshop & Warehouse : 1st floor : Control Temp Spare Part								
2.1	2214587-3	2 Apr 2022	Day time	1	523	397.5	50	100	Pass
2.2	2214587-4	2 Apr 2022	Day time	2	272				
	Area - Workshop & Warehouse : 1st floor : Helper Room								
3.1	2214587-5	2 Apr 2022	Day time	1	409	383.5	50	100	Pass
3.2	2214587-6	2 Apr 2022	Day time	2	358				
	Area - Workshop & Warehouse : 1st floor : MDB Electrical Control Room								
4.1	2214587-7	2 Apr 2022	Day time	1	303	304.0	50	100	Pass
4.2	2214587-8	2 Apr 2022	Day time	2	305				
	Area - Workshop & Warehouse : 1st floor : Restroom-Gentlemen (T-02)								
5.1	2214587-9	2 Apr 2022	Day time	1	235	232.5	50	100	Pass
5.2	2214587-10	2 Apr 2022	Day time	2	230				
	Area - Workshop & Warehouse : 1st floor : Spare Part Mechanical Room								
6.1	2214587-11	2 Apr 2022	Day time	1	263	290.0	50	100	Pass
6.2	2214587-12	2 Apr 2022	Day time	2	317				
	Area - Workshop & Warehouse : 1st floor : Storage Room								
7.1	2214587-13	2 Apr 2022	Day time	1	406	352.5	50	100	Pass
7.2	2214587-14	2 Apr 2022	Day time	2	299				
	Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky A;B								
8.1	2214587-15	2 Apr 2022	Day time	1	244	274.5	50	100	Pass
8.2	2214587-16	2 Apr 2022	Day time	2	305				
	Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky C;D								
9.1	2214587-17	2 Apr 2022	Day time	1	231	223.5	50	100	Pass
9.2	2214587-18	2 Apr 2022	Day time	2	216				
	Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky E;F								
10.1	2214587-19	2 Apr 2022	Day time	1	263	236.5	50	100	Pass
10.2	2214587-20	2 Apr 2022	Day time	2	210				
	Area - Workshop & Warehouse : 1st floor : Unsecured Warehouse Area								
11.1	2214587-21	2 Apr 2022	Day time	1	331	284.5	50	100	Pass
11.2	2214587-22	2 Apr 2022	Day time	2	238				

Technical Management

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2214587**

Date Received : Apr 05, 2022  
Date Reported : Apr 08, 2022  
Report Number : 2282937-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 1st floor : Warehouse Room									
12.1	2214587-23	2 Apr 2022	Day time	1	887	835.5	50	100	Pass
12.2	2214587-24	2 Apr 2022	Day time	2	784				

**Measurement by** : Phongsiri Somkaew Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251446**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346109-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 1 st floor : Cable Room โชนมริเวณประตูทางเข้าหลัก									
2.1	2251446-1	10 Jun 2022	Day time	1	406	392.8	100	200	Pass
2.2	2251446-2	10 Jun 2022	Day time	2	430				
2.3	2251446-3	10 Jun 2022	Day time	3	376				
2.4	2251446-4	10 Jun 2022	Day time	4	359				
2.1	2251446-5	10 Jun 2022	Night time	1	428	339.3	100	200	Pass
2.2	2251446-6	10 Jun 2022	Night time	2	385				
2.3	2251446-7	10 Jun 2022	Night time	3	321				
2.4	2251446-8	10 Jun 2022	Night time	4	223				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
Section Head

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Assistant Manager

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251447**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346111-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 2nd floor : Electrical Room โชนบริเวณกลางห้อง ชงกลาง									
2.1	2251447-1	11 Jun 2022	Day time	1	352	318.5	100	200	Pass
2.2	2251447-2	11 Jun 2022	Day time	2	341				
2.3	2251447-3	11 Jun 2022	Day time	3	280				
2.4	2251447-4	11 Jun 2022	Day time	4	301				
2.1	2251447-5	11 Jun 2022	Night time	1	341	317.3	100	200	Pass
2.2	2251447-6	11 Jun 2022	Night time	2	341				
2.3	2251447-7	11 Jun 2022	Night time	3	290				
2.4	2251447-8	11 Jun 2022	Night time	4	297				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Section Head

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251448**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346113-1

Page 1 of 3

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3 rd floor : Broom Closet									
2.1	2251448-1	10 Jun 2022	Day time	1	520	522.5	50	100	Pass
2.2	2251448-2	10 Jun 2022	Day time	2	525				
2.1	2251448-3	10 Jun 2022	Night time	1	405	427.0	50	100	Pass
2.2	2251448-4	10 Jun 2022	Night time	2	449				
Spot - Electrical and Control Building : 3 rd floor : Control Room #1									
4	2251448-5	10 Jun 2022	Day time	1	424	-	400-500	-	Pass
4	2251448-6	10 Jun 2022	Night time	1	405	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #2									
5	2251448-7	10 Jun 2022	Day time	1	411	-	400-500	-	Pass
5	2251448-8	10 Jun 2022	Night time	1	411	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #3									
6	2251448-9	10 Jun 2022	Day time	1	595	-	400-500	-	Pass
6	2251448-10	10 Jun 2022	Night time	1	578	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #4									
7	2251448-11	10 Jun 2022	Day time	1	435	-	400-500	-	Pass
7	2251448-12	10 Jun 2022	Night time	1	515	-	400-500	-	Pass
Area - Electrical and Control Building : 3 rd floor : Documnet Room									
8.1	2251448-13	10 Jun 2022	Day time	1	650	652.0	150	300	Pass
8.2	2251448-14	10 Jun 2022	Day time	2	654				
8.1	2251448-15	10 Jun 2022	Night time	1	615	587.0	150	300	Pass
8.2	2251448-16	10 Jun 2022	Night time	2	559				
Area - Electrical and Control Building : 3 rd floor : Engineering Work Satation Room									
10.1	2251448-17	10 Jun 2022	Day time	1	515	735.7	100	200	Pass
10.2	2251448-18	10 Jun 2022	Day time	2	762				
10.3	2251448-19	10 Jun 2022	Day time	3	930				
10.1	2251448-20	10 Jun 2022	Night time	1	841	776.3	100	200	Pass
10.2	2251448-21	10 Jun 2022	Night time	2	740				
10.3	2251448-22	10 Jun 2022	Night time	3	748				
Spot - Electrical and Control Building : 3 rd floor : Operation Manager									
11	2251448-23	10 Jun 2022	Day time	1	422	-	400-500	-	Pass
11	2251448-24	10 Jun 2022	Night time	1	408	-	400-500	-	Pass

Technical Management

Supot Salamteh  
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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251448**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346113-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-01)									
12.1	2251448-25	10 Jun 2022	Day time	1	620	632.5	50	100	Pass
12.2	2251448-26	10 Jun 2022	Day time	2	645				
12.1	2251448-27	10 Jun 2022	Night time	1	469	474.5	50	100	Pass
12.2	2251448-28	10 Jun 2022	Night time	2	480				
Area - Electrical and Control Building : 3 rd floor : Restroom-Lady (T-02)									
14.1	2251448-29	10 Jun 2022	Day time	1	1,280	1,100	50	100	Pass
14.2	2251448-30	10 Jun 2022	Day time	2	920				
14.1	2251448-31	10 Jun 2022	Night time	1	1,100	985.0	50	100	Pass
14.2	2251448-32	10 Jun 2022	Night time	2	870				
Area - Electrical and Control Building : 3 rd floor : Barthroom-Lady (T-04) โชนบริเวณล่างล่างมี									
23.1	2251448-33	10 Jun 2022	Day time	1	1,024	967.0	50	100	Pass
23.2	2251448-34	10 Jun 2022	Day time	2	910				
23.1	2251448-35	10 Jun 2022	Night time	1	648	676.5	50	100	Pass
23.2	2251448-36	10 Jun 2022	Night time	2	705				
Area - Electrical and Control Building : 3 rd floor : Canteen โชนบริเวณท้ายห้อง									
24.1	2251448-37	10 Jun 2022	Day time	1	525	512.5	150	300	Pass
24.2	2251448-38	10 Jun 2022	Day time	2	500				
24.1	2251448-39	10 Jun 2022	Night time	1	401	390.5	150	300	Pass
24.2	2251448-40	10 Jun 2022	Night time	2	380				
Area - Electrical and Control Building : 3 rd floor : DSC Room โชนบริเวณกลางห้อง ช่องกลาง									
25.1	2251448-41	10 Jun 2022	Day time	1	412	387.7	100	200	Pass
25.2	2251448-42	10 Jun 2022	Day time	2	295				
25.3	2251448-43	10 Jun 2022	Day time	3	456				
25.1	2251448-44	10 Jun 2022	Night time	1	395	333.0	100	200	Pass
25.2	2251448-45	10 Jun 2022	Night time	2	306				
25.3	2251448-46	10 Jun 2022	Night time	3	298				
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-03) โชนบริเวณล่างล่างมี									
26.1	2251448-47	10 Jun 2022	Day time	1	645	480.0	50	100	Pass
26.2	2251448-48	10 Jun 2022	Day time	2	315				
26.1	2251448-49	10 Jun 2022	Night time	1	771	717.5	50	100	Pass
26.2	2251448-50	10 Jun 2022	Night time	2	664				

Technical Management

Supot Salamteh  
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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251448**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346113-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3 rd floor : Up-down Main Way (Stair) โซนหน้าห้อง Canteen									
27.1	2251448-51	10 Jun 2022	Day time	1	590	586.5	50	100	Pass
27.2	2251448-52	10 Jun 2022	Day time	2	583				
27.1	2251448-53	10 Jun 2022	Night time	1	610	559.0	50	100	Pass
27.2	2251448-54	10 Jun 2022	Night time	2	508				
Area - Electrical and Control Building : 3 rd floor : Up-down Way (Exit Way) โซนบริเวณบันไดชั้น 3 ชั้นบนสุด									
28.1	2251448-55	10 Jun 2022	Day time	1	510	515.0	50	100	Pass
28.2	2251448-56	10 Jun 2022	Day time	2	520				
28.1	2251448-57	10 Jun 2022	Night time	1	110	115.0	50	100	Pass
28.2	2251448-58	10 Jun 2022	Night time	2	120				
Area - Electrical and Control Building : 3 rd floor : Utility Room โซนบริเวณหน้าตู้ Control									
29.1	2251448-59	10 Jun 2022	Day time	1	239	224.5	100	200	Pass
29.2	2251448-60	10 Jun 2022	Day time	2	210				
29.1	2251448-61	10 Jun 2022	Night time	1	235	234.0	100	200	Pass
29.2	2251448-62	10 Jun 2022	Night time	2	233				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
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Wichan Choonharat  
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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251455**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346121-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Water Laboratory : Balance									
1	2251455-1	10 Jun 2022	Day time	1	965	-	400-500	-	Pass
1	2251455-2	10 Jun 2022	Night time	1	670	-	400-500	-	Pass
Spot - Water Laboratory : Computer									
2	2251455-3	10 Jun 2022	Day time	1	1,120	-	400-500	-	Pass
2	2251455-4	10 Jun 2022	Day time	2	1,090	-	300		
2	2251455-5	10 Jun 2022	Day time	3	980	-	200		
2	2251455-6	10 Jun 2022	Night time	1	845	-	400-500	-	Pass
Area - Water Laboratory : Restroom (T-02)									
3.1	2251455-7	10 Jun 2022	Day time	1	206	244.5	50	100	Pass
3.2	2251455-8	10 Jun 2022	Day time	2	283				
3.1	2251455-9	10 Jun 2022	Night time	1	236	258.0	50	100	Pass
3.2	2251455-10	10 Jun 2022	Night time	2	280				
Spot - Water Laboratory : Rise Floor#2 (Water Treatment)									
5	2251455-11	10 Jun 2022	Day time	1	1,330	-	400-500	-	Pass
5	2251455-12	10 Jun 2022	Day time	2	1,070	-	300		
5	2251455-13	10 Jun 2022	Day time	3	1,108	-	200		
5	2251455-14	10 Jun 2022	Night time	1	976	-	400-500	-	Pass
Area - Water Laboratory : Rise Floor#1 (Water Treatment) โซนบริเวณโต๊ะคอมพิวเตอร์									
6.1	2251455-15	10 Jun 2022	Day time	1	745	707.5	100	200	Pass
6.2	2251455-16	10 Jun 2022	Day time	2	670				
6.1	2251455-17	10 Jun 2022	Night time	1	698	690.0	100	200	Pass
6.2	2251455-18	10 Jun 2022	Night time	2	682				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251461**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346125-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #1								
1	2251461-1	10 Jun 2022	Day time	1	618	-	400-500	-	Pass
	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #2								
2	2251461-2	10 Jun 2022	Day time	1	638	-	400-500	-	Pass
	Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #3								
3	2251461-3	10 Jun 2022	Day time	1	440	-	400-500	-	Pass
	Spot - Workshop & Warehouse : 2nd floor : Electronic Staff Office								
6	2251461-4	10 Jun 2022	Day time	1	435	-	400-500	-	Pass
	Spot - Workshop & Warehouse : 2nd floor : Information Technology (IT)								
7	2251461-5	10 Jun 2022	Day time	1	688	-	400-500	-	Pass
7	2251461-6	10 Jun 2022	Night time	1	525	-	400-500	-	Pass
	Area - Workshop & Warehouse : 2nd floor : Maids Room								
8.1	2251461-7	10 Jun 2022	Day time	1	605	562.5	50	100	Pass
8.2	2251461-8	10 Jun 2022	Day time	2	520				
	Spot - Workshop & Warehouse : 2nd floor : Maintenance Manager								
9	2251461-9	10 Jun 2022	Day time	1	465	-	400-500	-	Pass
9	2251461-10	10 Jun 2022	Night time	1	428	-	400-500	-	Pass
	Spot - Workshop & Warehouse : 2nd floor : Mechanical Staff Office								
10	2251461-11	10 Jun 2022	Day time	1	510	-	400-500	-	Pass
10	2251461-12	10 Jun 2022	Night time	1	468	-	400-500	-	Pass
	Area - Workshop & Warehouse : 2nd floor : Spare Part Electical Room								
14.1	2251461-13	10 Jun 2022	Day time	1	420	417.5	50	100	Pass
14.2	2251461-14	10 Jun 2022	Day time	2	415				
14.1	2251461-15	10 Jun 2022	Night time	1	405	391.5	50	100	Pass
14.2	2251461-16	10 Jun 2022	Night time	2	378				
	Area - Workshop & Warehouse : 2nd floor : Canteen โซนบริเวณท้ายห้องฟู้ดบาร์								
15.1	2251461-17	10 Jun 2022	Day time	1	605	610.0	150	300	Pass
15.2	2251461-18	10 Jun 2022	Day time	2	615				
15.1	2251461-19	10 Jun 2022	Night time	1	584	598.5	150	300	Pass
15.2	2251461-20	10 Jun 2022	Night time	2	613				

Technical Management

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## Analysis / Test Report

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251461**

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Report Number : 2346125-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 2nd floor : Document Center โชนบริเวณหน้าห้อง									
16.1	2251461-21	10 Jun 2022	Day time	1	705	725.0	150	300	Pass
16.2	2251461-22	10 Jun 2022	Day time	2	745				
16.1	2251461-23	10 Jun 2022	Night time	1	653	636.5	150	300	Pass
16.2	2251461-24	10 Jun 2022	Night time	2	620				
Area - Workshop & Warehouse : 2nd floor : Meeting Room โชนบริเวณฝั่งผู้รับฟังบรรยาย									
17.1	2251461-25	10 Jun 2022	Day time	1	525	522.5	150	300	Pass
17.2	2251461-26	10 Jun 2022	Day time	2	520				
17.1	2251461-27	10 Jun 2022	Night time	1	490	517.5	150	300	Pass
17.2	2251461-28	10 Jun 2022	Night time	2	545				
Area - Workshop & Warehouse : 2nd floor : Restroom-Gentlemen (T-03) โชนบริเวณอ่างล้างมือ									
18.1	2251461-29	10 Jun 2022	Day time	1	210	233.0	50	100	Pass
18.2	2251461-30	10 Jun 2022	Day time	2	256				
18.1	2251461-31	10 Jun 2022	Night time	1	160	202.5	50	100	Pass
18.2	2251461-32	10 Jun 2022	Night time	2	245				
Area - Workshop & Warehouse : 2nd floor : Restroom-Lady (T-04) โชนบริเวณอ่างล้างมือ									
19.1	2251461-33	10 Jun 2022	Day time	1	200	270.0	50	100	Pass
19.2	2251461-34	10 Jun 2022	Day time	2	340				
19.1	2251461-35	10 Jun 2022	Night time	1	190	242.5	50	100	Pass
19.2	2251461-36	10 Jun 2022	Night time	2	295				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Assistant Manager

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## Analysis / Test Report

**Client** : Gulf JP NNK Co., Ltd.  
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251444**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346107-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Administration Building : EHS									
4	2251444-1	10 Jun 2022	Day time	1	560	-	400-500	-	Pass
4	2251444-2	10 Jun 2022	Night time	1	526	-	400-500	-	Pass
Area - Administration Building : Frist Aid Room									
5.1	2251444-3	10 Jun 2022	Day time	1	560	543.5	25	50	Pass
5.2	2251444-4	10 Jun 2022	Day time	2	527				
5.1	2251444-5	10 Jun 2022	Night time	1	614	625.0	25	50	Pass
5.2	2251444-6	10 Jun 2022	Night time	2	636				
Spot - Administration Building : General Office #1									
6	2251444-7	10 Jun 2022	Day time	1	660	-	400-500	-	Pass
6	2251444-8	10 Jun 2022	Night time	1	412	-	400-500	-	Pass
Spot - Administration Building : General Office #2									
7	2251444-9	10 Jun 2022	Day time	1	610	-	400-500	-	Pass
7	2251444-10	10 Jun 2022	Night time	1	411	-	400-500	-	Pass
Spot - Administration Building : General Office #3									
8	2251444-11	10 Jun 2022	Day time	1	565	-	400-500	-	Pass
8	2251444-12	10 Jun 2022	Night time	1	490	-	400-500	-	Pass
Spot - Administration Building : General Office #4									
9	2251444-13	10 Jun 2022	Day time	1	515	-	400-500	-	Pass
9	2251444-14	10 Jun 2022	Night time	1	468	-	400-500	-	Pass
Spot - Administration Building : General Office #5									
10	2251444-15	10 Jun 2022	Day time	1	565	-	400-500	-	Pass
10	2251444-16	10 Jun 2022	Night time	1	565	-	400-500	-	Pass
Area - Administration Building : Master Document Room									
12.1	2251444-17	10 Jun 2022	Day time	1	655	625.0	150	300	Pass
12.2	2251444-18	10 Jun 2022	Day time	2	595				
12.1	2251444-19	10 Jun 2022	Night time	1	668	639.5	150	300	Pass
12.2	2251444-20	10 Jun 2022	Night time	2	611				
Area - Administration Building : Meeting Room 2									
14.1	2251444-21	10 Jun 2022	Day time	1	510	360.0	150	300	Pass
14.2	2251444-22	10 Jun 2022	Day time	2	210				
14.1	2251444-23	10 Jun 2022	Night time	1	440	502.0	150	300	Pass
14.2	2251444-24	10 Jun 2022	Night time	2	564				

Technical Management

Supot Salamteh  
Section Head

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**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251444**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346107-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Administration Building : Plant Manager									
16	2251444-25	10 Jun 2022	Day time	1	615	-	400-500	-	Pass
16	2251444-26	10 Jun 2022	Night time	1	615	-	400-500	-	Pass
Area - Administration Building : Reception Area									
17.1	2251444-27	10 Jun 2022	Day time	1	366	358.0	150	300	Pass
17.2	2251444-28	10 Jun 2022	Day time	2	350				
17.1	2251444-29	10 Jun 2022	Night time	1	410	354.0	150	300	Pass
17.2	2251444-30	10 Jun 2022	Night time	2	298				
Spot - Administration Building : Spare Office									
20	2251444-31	10 Jun 2022	Day time	1	565	-	400-500	-	Pass
20	2251444-32	10 Jun 2022	Night time	1	558	-	400-500	-	Pass
Area - Administration Building : Canteen & Pantry โขนบริเวณท้ายห้อง									
22.1	2251444-33	10 Jun 2022	Day time	1	708	638.0	150	300	Pass
22.2	2251444-34	10 Jun 2022	Day time	2	568				
22.1	2251444-35	10 Jun 2022	Night time	1	651	643.5	150	300	Pass
22.2	2251444-36	10 Jun 2022	Night time	2	636				
Area - Administration Building : Corridors โขนบริเวณทางเข้าประตูหน้าอาคารประชาสัมพันธ์									
23.1	2251444-37	10 Jun 2022	Day time	1	370	295.0	50	100	Pass
23.2	2251444-38	10 Jun 2022	Day time	2	220				
23.1	2251444-39	10 Jun 2022	Night time	1	211	215.5	50	100	Pass
23.2	2251444-40	10 Jun 2022	Night time	2	220				
Area - Administration Building : Meeting Room 1 โขนบริเวณหน้าห้องฝั่งผู้บรรยาย									
24.1	2251444-41	10 Jun 2022	Day time	1	385	434.3	150	300	Pass
24.2	2251444-42	10 Jun 2022	Day time	2	436				
24.3	2251444-43	10 Jun 2022	Day time	3	482				
24.1	2251444-44	10 Jun 2022	Night time	1	415	418.3	150	300	Pass
24.2	2251444-45	10 Jun 2022	Night time	2	415				
24.3	2251444-46	10 Jun 2022	Night time	3	425				
Area - Administration Building : Office Supply Area โขนบริเวณห้องฝั่ง Loker									
25.1	2251444-47	10 Jun 2022	Day time	1	445	438.5	50	100	Pass
25.2	2251444-48	10 Jun 2022	Day time	2	432				
25.1	2251444-49	10 Jun 2022	Night time	1	311	315.5	50	100	Pass
25.2	2251444-50	10 Jun 2022	Night time	2	320				

Technical Management

Supot Salamteh  
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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251444**

Date Received : Jun 15, 2022  
Date Reported : Jun 16, 2022  
Report Number : 2346107-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Administration Building : Restroom-Gentlemen โชนบริเวณอ่างล้างมือ									
26.1	2251444-51	10 Jun 2022	Day time	1	366	325.5	50	100	Pass
26.2	2251444-52	10 Jun 2022	Day time	2	285				
26.1	2251444-53	10 Jun 2022	Night time	1	362	321.0	50	100	Pass
26.2	2251444-54	10 Jun 2022	Night time	2	280				
Area - Administration Building : Restroom-Lady โชนบริเวณอ่างล้างมือ									
27.1	2251444-55	10 Jun 2022	Day time	1	565	555.0	50	100	Pass
27.2	2251444-56	10 Jun 2022	Day time	2	545				
27.1	2251444-57	10 Jun 2022	Night time	1	403	434.0	50	100	Pass
27.2	2251444-58	10 Jun 2022	Night time	2	465				
Area - Administration Building : Utility Room โชนบริเวณท้ายห้อง									
28.1	2251444-59	10 Jun 2022	Day time	1	365	492.5	50	100	Pass
28.2	2251444-60	10 Jun 2022	Day time	2	620				
28.1	2251444-61	10 Jun 2022	Night time	1	300	305.5	50	100	Pass
28.2	2251444-62	10 Jun 2022	Night time	2	311				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251449**

Date Received : Jun 15, 2022  
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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Guard Room									
1.1	2251449-1	10 Jun 2022	Day time	1	2,020	1,980	-	100	Pass
1.2	2251449-2	10 Jun 2022	Day time	2	1,940				
1.1	2251449-3	10 Jun 2022	Night time	1	515	509.0	-	100	Pass
1.2	2251449-4	10 Jun 2022	Night time	2	503				
Area - Guard Room : Restroom (Logger Room)									
2.1	2251449-5	10 Jun 2022	Day time	1	436	458.0	50	100	Pass
2.2	2251449-6	10 Jun 2022	Day time	2	480				
2.1	2251449-7	10 Jun 2022	Night time	1	368	371.0	50	100	Pass
2.2	2251449-8	10 Jun 2022	Night time	2	374				
Area - Guard Room : Restroom (T-01)									
3.1	2251449-9	10 Jun 2022	Day time	1	315	272.5	50	100	Pass
3.2	2251449-10	10 Jun 2022	Day time	2	230				
3.1	2251449-11	10 Jun 2022	Night time	1	365	310.5	50	100	Pass
3.2	2251449-12	10 Jun 2022	Night time	2	256				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251450**

Date Received : Jun 15, 2022  
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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Switchyard Control Building : Battery Room									
1.1	2251450-1	10 Jun 2022	Day time	1	205	225.0	50	100	Pass
1.2	2251450-2	10 Jun 2022	Day time	2	245				
1.1	2251450-3	10 Jun 2022	Night time	1	190	211.5	50	100	Pass
1.2	2251450-4	10 Jun 2022	Night time	2	233				
Area - Switchyard Control Building : Control Room #1 โชนบริเวณตู้ Distribution Board									
5.1	2251450-5	10 Jun 2022	Day time	1	320	329.0	100	200	Pass
5.2	2251450-6	10 Jun 2022	Day time	2	338				
5.1	2251450-7	10 Jun 2022	Night time	1	252	236.0	100	200	Pass
5.2	2251450-8	10 Jun 2022	Night time	2	220				
Area - Switchyard Control Building : Control Room #1 โชนบริเวณประตูทางเข้า									
6.1	2251450-9	10 Jun 2022	Day time	1	930	957.5	100	200	Pass
6.2	2251450-10	10 Jun 2022	Day time	2	985				
6.1	2251450-11	10 Jun 2022	Night time	1	215	262.5	100	200	Pass
6.2	2251450-12	10 Jun 2022	Night time	2	310				
Area - Switchyard Control Building : Switchyard Room โชนบริเวณหน้าตู้ 10BBC04									
7.1	2251450-13	10 Jun 2022	Day time	1	335	336.5	100	200	Pass
7.2	2251450-14	10 Jun 2022	Day time	2	338				
7.1	2251450-15	10 Jun 2022	Night time	1	210	219.0	100	200	Pass
7.2	2251450-16	10 Jun 2022	Night time	2	228				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot Salamteh  
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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251453**

Date Received : Jun 15, 2022  
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Report Number : 2346119-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Terminal Substation : Battery Room									
2.1	2251453-1	11 Jun 2022	Day time	1	380	360.0	50	100	Pass
2.2	2251453-2	11 Jun 2022	Day time	2	340				
2.1	2251453-3	11 Jun 2022	Night time	1	211	210.5	50	100	Pass
2.2	2251453-4	11 Jun 2022	Night time	2	210				
Area - Terminal Substation : Control Room โขงนกบริเวณหน้าตู้ Distribution Board No.2									
3.1	2251453-5	11 Jun 2022	Day time	1	430	432.5	100	200	Pass
3.2	2251453-6	11 Jun 2022	Day time	2	435				
3.1	2251453-7	11 Jun 2022	Night time	1	234	234.5	100	200	Pass
3.2	2251453-8	11 Jun 2022	Night time	2	235				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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**Project Name :** Monitoring EIA  
**Project Location :** GNNK

**Lot ID: 2251458**

Date Received : Jun 15, 2022  
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Report Number : 2346123-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 1st floor : Control Temp Spare Part									
2.1	2251458-1	10 Jun 2022	Day time	1	502	413.5	50	100	Pass
2.2	2251458-2	10 Jun 2022	Day time	2	325				
2.1	2251458-3	10 Jun 2022	Night time	1	420	342.5	50	100	Pass
2.2	2251458-4	10 Jun 2022	Night time	2	265				
Area - Workshop & Warehouse : 1st floor : MDB Electrical Control Room									
4.1	2251458-5	10 Jun 2022	Day time	1	470	374.5	50	100	Pass
4.2	2251458-6	10 Jun 2022	Day time	2	279				
4.1	2251458-7	10 Jun 2022	Night time	1	316	328.5	50	100	Pass
4.2	2251458-8	10 Jun 2022	Night time	2	341				
Area - Workshop & Warehouse : 1st floor : C & I Lab Room โขนบบริเวณท้ายห้อง									
13.1	2251458-9	10 Jun 2022	Day time	1	510	537.5	50	100	Pass
13.2	2251458-10	10 Jun 2022	Day time	2	565				
Area - Workshop & Warehouse : 1st floor : Helper Room โขนบบริเวณประตูทางเข้าฝั่งขวา									
14.1	2251458-11	10 Jun 2022	Day time	1	365	395.5	50	100	Pass
14.2	2251458-12	10 Jun 2022	Day time	2	426				
14.1	2251458-13	10 Jun 2022	Night time	1	305	360.5	50	100	Pass
14.2	2251458-14	10 Jun 2022	Night time	2	416				
Area - Workshop & Warehouse : 1st floor : Restroom-Gentlemen (T-02) โขนบบริเวณอ่างล้างมือ									
15.1	2251458-15	10 Jun 2022	Day time	1	140	214.5	50	100	Pass
15.2	2251458-16	10 Jun 2022	Day time	2	289				
15.1	2251458-17	10 Jun 2022	Night time	1	175	235.5	50	100	Pass
15.2	2251458-18	10 Jun 2022	Night time	2	296				
Area - Workshop & Warehouse : 1st floor : Spare Part Mechanical Room โขนบบริเวณประตูทางเข้า									
16.1	2251458-19	10 Jun 2022	Day time	1	245	264.0	50	100	Pass
16.2	2251458-20	10 Jun 2022	Day time	2	283				
16.1	2251458-21	10 Jun 2022	Night time	1	243	242.0	50	100	Pass
16.2	2251458-22	10 Jun 2022	Night time	2	241				
Area - Workshop & Warehouse : 1st floor : Storage Room โขนบบริเวณประตูทางเข้า									
17.1	2251458-23	10 Jun 2022	Day time	1	219	238.5	50	100	Pass
17.2	2251458-24	10 Jun 2022	Day time	2	258				
17.1	2251458-25	10 Jun 2022	Night time	1	206	236.5	50	100	Pass
17.2	2251458-26	10 Jun 2022	Night time	2	267				

Technical Management

Supot Salamteh  
Section Head

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Wichan Choonharat  
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99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000  
**P/O** : สัญญาเลขที่4600001497  
**Project Name** : Monitoring EIA  
**Project Location** : GNNK

**Lot ID: 2251458**

Date Received : Jun 15, 2022  
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Report Number : 2346123-1

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Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky A;B โซนด้านหน้า									
18.1	2251458-27	10 Jun 2022	Day time	1	204	184.5	50	100	Pass
18.2	2251458-28	10 Jun 2022	Day time	2	165				
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky C;D โซนด้านหน้า									
19.1	2251458-29	10 Jun 2022	Day time	1	130	149.0	50	100	Pass
19.2	2251458-30	10 Jun 2022	Day time	2	168				
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky E;F โซนด้านหน้า									
20.1	2251458-31	10 Jun 2022	Day time	1	165	164.0	50	100	Pass
20.2	2251458-32	10 Jun 2022	Day time	2	163				
Area - Workshop & Warehouse : 1st floor : Unsecured Warehouse Area โซนบริเวณด้านหน้าห้อง									
21.1	2251458-33	10 Jun 2022	Day time	1	316	373.0	50	100	Pass
21.2	2251458-34	10 Jun 2022	Day time	2	430				
21.1	2251458-35	10 Jun 2022	Night time	1	107	108.5	50	100	Pass
21.2	2251458-36	10 Jun 2022	Night time	2	110				
Area - Workshop & Warehouse : 1st floor : Warehouse Room โซนบริเวณท้ายห้อง									
22.1	2251458-37	10 Jun 2022	Day time	1	462	390.0	50	100	Pass
22.2	2251458-38	10 Jun 2022	Day time	2	318				
22.1	2251458-39	10 Jun 2022	Night time	1	465	509.0	50	100	Pass
22.2	2251458-40	10 Jun 2022	Night time	2	553				

**Measurement by** : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

**Guideline** : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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Section Head

Approved by

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