



บริษัท ปตท. น้ำมันและการค้าปลีก จำกัด (มหาชน)

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการทำเทียบเรือขนถ่ายน้ำมันและก๊าซปิโตรเลียมเหลวสุราษฎร์ธานี แห่งที่ 2

ระหว่างเดือนมกราคมถึงมิถุนายน พ.ศ. 2566

ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์  
ผลกระทบสิ่งแวดล้อม



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คุณภาพอากาศในบรรยากาศ



## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635997-1

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**Sample Number** : 2335279-1  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	20/04/23 - 21/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	20/04/23 - 21/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	20/04/23 - 21/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	20/04/23 - 21/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	20/04/23 - 21/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	20/04/23 - 21/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	20/04/23 - 21/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	20/04/23 - 21/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	20/04/23 - 21/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	20/04/23 - 21/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	20/04/23 - 21/04/23	ug/m3	0.04	0.11	<0.11	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	20/04/23 - 21/04/23	ug/m3	0.10	0.36	<0.36	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	20/04/23 - 21/04/23	ug/m3	0.50	1.52	<1.52	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	20/04/23 - 21/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

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**P/O** : 4170008459

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**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

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**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	20/04/23 - 21/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	20/04/23 - 21/04/23	ug/m3	0.05	0.18	2.34	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	20/04/23 - 21/04/23	ug/m3	0.08	0.24	10.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	20/04/23 - 21/04/23	ug/m3	0.30	0.84	<0.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	20/04/23 - 21/04/23	ug/m3	0.08	0.23	0.46	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	20/04/23 - 21/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	20/04/23 - 21/04/23	ug/m3	0.05	0.16	0.77	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	20/04/23 - 21/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

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Senior Manager

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**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

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**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	20/04/23 - 21/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	20/04/23 - 21/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	20/04/23 - 21/04/23	ug/m3	0.06	0.19	Not Detected	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	20/04/23 - 21/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	20/04/23 - 21/04/23	ug/m3	0.05	0.16	0.31	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	20/04/23 - 21/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	20/04/23 - 21/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	20/04/23 - 21/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	20/04/23 - 21/04/23	ug/m3	0.08	0.24	<0.24	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	20/04/23 - 21/04/23	ug/m3	0.30	1.03	2.44	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

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**P/O** : 4170008459

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Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	20/04/23 - 21/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	20/04/23 - 21/04/23	ug/m3	0.60	1.72	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	20/04/23 - 21/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	20/04/23 - 21/04/23	ug/m3	0.80	2.47	2.67	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	20/04/23 - 21/04/23	ug/m3	0.06	0.17	<0.17	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	20/04/23 - 21/04/23	ug/m3	0.30	0.94	10.63	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	20/04/23 - 21/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	20/04/23 - 21/04/23	ug/m3	0.60	2.05	<2.05	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	20/04/23 - 21/04/23	ug/m3	0.60	1.76	<1.76	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	20/04/23 - 21/04/23	ug/m3	0.40	1.15	1.19	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

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Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	20/04/23 - 21/04/23	ug/m3	0.50	1.39	3.23	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	20/04/23 - 21/04/23	ug/m3	1.50	4.34	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	20/04/23 - 21/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	20/04/23 - 21/04/23	ug/m3	0.20	0.66	3.93	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	20/04/23 - 21/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	20/04/23 - 21/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	20/04/23 - 21/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	20/04/23 - 21/04/23	ug/m3	0.50	1.43	1.78	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	20/04/23 - 21/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	20/04/23 - 21/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

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<b>Air Testing</b>									
Pentane	20/04/23 - 21/04/23	ug/m3	0.50	1.48	3.72	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	20/04/23 - 21/04/23	ug/m3	0.50	1.19	<1.19	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	20/04/23 - 21/04/23	ug/m3	0.30	0.86	1.58	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	20/04/23 - 21/04/23	ug/m3	0.70	2.13	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	20/04/23 - 21/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	20/04/23 - 21/04/23	ug/m3	0.60	1.88	1.96	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	20/04/23 - 21/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	20/04/23 - 21/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	20/04/23 - 21/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635997-1

Page 8 of 8

**Sample Number** 2335279-1  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	20/04/23 - 21/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By** : Yongsil Rangsee

**Remark :**

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

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2635997-2

Page 1 of 1

**Sample Number** 2335279-1  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	10:00 AM - 01:00 PM	ppm	-	1.0	2.5	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	1.0	1.6	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	-	4.0	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

Page 1 of 8

**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	21/04/23 - 22/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	21/04/23 - 22/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	21/04/23 - 22/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	21/04/23 - 22/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	21/04/23 - 22/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	21/04/23 - 22/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	<2.46	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	21/04/23 - 22/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

Page 2 of 8

**Sample Number** : 2335279-2  
**Sampled Date** : Apr 21, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	21/04/23 - 22/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	21/04/23 - 22/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	21/04/23 - 22/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	21/04/23 - 22/04/23	ug/m3	0.04	0.11	0.13	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	21/04/23 - 22/04/23	ug/m3	0.10	0.36	Not Detected	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	21/04/23 - 22/04/23	ug/m3	0.50	1.52	1.88	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	21/04/23 - 22/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

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**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	21/04/23 - 22/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	21/04/23 - 22/04/23	ug/m3	0.05	0.18	3.72	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	21/04/23 - 22/04/23	ug/m3	0.08	0.24	12.30	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	21/04/23 - 22/04/23	ug/m3	0.30	0.84	<0.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	21/04/23 - 22/04/23	ug/m3	0.08	0.23	0.50	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	21/04/23 - 22/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	21/04/23 - 22/04/23	ug/m3	0.05	0.16	1.28	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	21/04/23 - 22/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

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**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	21/04/23 - 22/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	21/04/23 - 22/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	21/04/23 - 22/04/23	ug/m3	0.06	0.19	<0.19	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	21/04/23 - 22/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	21/04/23 - 22/04/23	ug/m3	0.05	0.16	1.06	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	21/04/23 - 22/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	21/04/23 - 22/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	21/04/23 - 22/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	21/04/23 - 22/04/23	ug/m3	0.08	0.24	<0.24	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	21/04/23 - 22/04/23	ug/m3	0.30	1.03	2.52	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

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**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	21/04/23 - 22/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	21/04/23 - 22/04/23	ug/m3	0.60	1.72	<1.72	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	21/04/23 - 22/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	21/04/23 - 22/04/23	ug/m3	0.80	2.47	3.16	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	21/04/23 - 22/04/23	ug/m3	0.06	0.17	<0.17	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	21/04/23 - 22/04/23	ug/m3	0.30	0.94	10.63	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	21/04/23 - 22/04/23	ug/m3	0.70	2.17	2.52	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	21/04/23 - 22/04/23	ug/m3	0.60	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	21/04/23 - 22/04/23	ug/m3	0.60	1.76	1.83	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	21/04/23 - 22/04/23	ug/m3	0.40	1.15	1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

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**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	21/04/23 - 22/04/23	ug/m3	0.50	1.39	2.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	21/04/23 - 22/04/23	ug/m3	1.50	4.34	<4.34	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	21/04/23 - 22/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	21/04/23 - 22/04/23	ug/m3	0.20	0.66	7.31	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	21/04/23 - 22/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	21/04/23 - 22/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	21/04/23 - 22/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	21/04/23 - 22/04/23	ug/m3	0.50	1.43	2.01	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	21/04/23 - 22/04/23	ug/m3	0.70	2.17	<2.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	21/04/23 - 22/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

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**Sample Number** : 2335279-2  
**Sampled Date** : Apr 21, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Pentane	21/04/23 - 22/04/23	ug/m3	0.50	1.48	5.02	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	21/04/23 - 22/04/23	ug/m3	0.50	1.19	1.33	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	21/04/23 - 22/04/23	ug/m3	0.30	0.86	2.72	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	21/04/23 - 22/04/23	ug/m3	0.70	2.13	3.92	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	21/04/23 - 22/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	21/04/23 - 22/04/23	ug/m3	0.60	1.88	3.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	21/04/23 - 22/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	21/04/23 - 22/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	21/04/23 - 22/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635998-1

Page 8 of 8

**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	21/04/23 - 22/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By** : Yongsil Rangsee

**Remark :**

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

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Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2635998-2

Page 1 of 1

**Sample Number** 2335279-2  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	10:00 AM - 01:00 PM	ppm	-	1.0	2.2	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	1.0	1.7	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	-	3.9	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 1 of 8

**Sample Number** 2335279-3  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	22/04/23 - 23/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	22/04/23 - 23/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	22/04/23 - 23/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	22/04/23 - 23/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	22/04/23 - 23/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	22/04/23 - 23/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	<2.46	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	22/04/23 - 23/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 2 of 8

**Sample Number** 2335279-3  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	22/04/23 - 23/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	22/04/23 - 23/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	22/04/23 - 23/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	22/04/23 - 23/04/23	ug/m3	0.04	0.11	0.13	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	22/04/23 - 23/04/23	ug/m3	0.10	0.36	Not Detected	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	22/04/23 - 23/04/23	ug/m3	0.50	1.52	<1.52	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	22/04/23 - 23/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

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**Sample Number** : 2335279-3  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	22/04/23 - 23/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	22/04/23 - 23/04/23	ug/m3	0.05	0.18	2.89	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	22/04/23 - 23/04/23	ug/m3	0.08	0.24	11.26	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	22/04/23 - 23/04/23	ug/m3	0.30	0.84	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	22/04/23 - 23/04/23	ug/m3	0.08	0.23	0.37	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	22/04/23 - 23/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	22/04/23 - 23/04/23	ug/m3	0.05	0.16	1.02	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	22/04/23 - 23/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

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**Sample Number** : 2335279-3  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	22/04/23 - 23/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	22/04/23 - 23/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	22/04/23 - 23/04/23	ug/m3	0.06	0.19	Not Detected	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	22/04/23 - 23/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	22/04/23 - 23/04/23	ug/m3	0.05	0.16	0.62	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	22/04/23 - 23/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	22/04/23 - 23/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	22/04/23 - 23/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	22/04/23 - 23/04/23	ug/m3	0.08	0.24	Not Detected	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	22/04/23 - 23/04/23	ug/m3	0.30	1.03	2.85	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 5 of 8

**Sample Number** : 2335279-3  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	22/04/23 - 23/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	22/04/23 - 23/04/23	ug/m3	0.60	1.72	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	22/04/23 - 23/04/23	ug/m3	0.50	1.43	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	22/04/23 - 23/04/23	ug/m3	0.80	2.47	2.97	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	22/04/23 - 23/04/23	ug/m3	0.06	0.17	<0.17	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	22/04/23 - 23/04/23	ug/m3	0.30	0.94	7.61	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	22/04/23 - 23/04/23	ug/m3	0.70	2.17	3.13	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	22/04/23 - 23/04/23	ug/m3	0.60	2.05	<2.05	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	22/04/23 - 23/04/23	ug/m3	0.60	1.76	<1.76	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	22/04/23 - 23/04/23	ug/m3	0.40	1.15	1.38	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

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555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 6 of 8

**Sample Number** 2335279-3  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	22/04/23 - 23/04/23	ug/m3	0.50	1.39	1.67	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	22/04/23 - 23/04/23	ug/m3	1.50	4.34	<4.34	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	22/04/23 - 23/04/23	ug/m3	0.50	1.43	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	22/04/23 - 23/04/23	ug/m3	0.20	0.66	4.69	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	22/04/23 - 23/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	22/04/23 - 23/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	22/04/23 - 23/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	22/04/23 - 23/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	22/04/23 - 23/04/23	ug/m3	0.70	2.17	<2.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	22/04/23 - 23/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 7 of 8

**Sample Number** : 2335279-3  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Pentane	22/04/23 - 23/04/23	ug/m3	0.50	1.48	2.54	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	22/04/23 - 23/04/23	ug/m3	0.50	1.19	<1.19	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	22/04/23 - 23/04/23	ug/m3	0.30	0.86	3.37	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	22/04/23 - 23/04/23	ug/m3	0.70	2.13	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	22/04/23 - 23/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	22/04/23 - 23/04/23	ug/m3	0.60	1.88	2.49	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	22/04/23 - 23/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	22/04/23 - 23/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	22/04/23 - 23/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2635999-1

Page 8 of 8

**Sample Number** : 2335279-3  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	22/04/23 - 23/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By** : Yongsil Rangsee

**Remark :**

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

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2635999-2

Page 1 of 1

**Sample Number** 2335279-3  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	10:00 AM - 01:00 PM	ppm	-	1.0	3.2	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	1.0	1.3	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	10:00 AM - 01:00 PM	ppm	-	-	4.4	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)



## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

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**Sample Number** : 2335279-4  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	20/04/23 - 21/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	20/04/23 - 21/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	20/04/23 - 21/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	20/04/23 - 21/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	20/04/23 - 21/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	20/04/23 - 21/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	<2.46	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	20/04/23 - 21/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

Page 2 of 8

**Sample Number** : 2335279-4  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	20/04/23 - 21/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	20/04/23 - 21/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	20/04/23 - 21/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	20/04/23 - 21/04/23	ug/m3	0.04	0.11	<0.11	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	20/04/23 - 21/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	20/04/23 - 21/04/23	ug/m3	0.10	0.36	Not Detected	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	20/04/23 - 21/04/23	ug/m3	0.50	1.52	3.33	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	20/04/23 - 21/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

Page 3 of 8

**Sample Number** 2335279-4  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	20/04/23 - 21/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	20/04/23 - 21/04/23	ug/m3	0.05	0.18	2.99	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	20/04/23 - 21/04/23	ug/m3	0.08	0.24	10.07	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	20/04/23 - 21/04/23	ug/m3	0.30	0.84	<0.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	20/04/23 - 21/04/23	ug/m3	0.08	0.23	0.32	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	20/04/23 - 21/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	20/04/23 - 21/04/23	ug/m3	0.05	0.16	0.58	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	20/04/23 - 21/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

Page 4 of 8

**Sample Number** : 2335279-4  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	20/04/23 - 21/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	20/04/23 - 21/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	20/04/23 - 21/04/23	ug/m3	0.06	0.19	<0.19	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	20/04/23 - 21/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	20/04/23 - 21/04/23	ug/m3	0.05	0.16	0.25	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	20/04/23 - 21/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	20/04/23 - 21/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	20/04/23 - 21/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	20/04/23 - 21/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	20/04/23 - 21/04/23	ug/m3	0.08	0.24	<0.24	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	20/04/23 - 21/04/23	ug/m3	0.30	1.03	3.18	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

Page 5 of 8

**Sample Number** : 2335279-4  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	20/04/23 - 21/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	20/04/23 - 21/04/23	ug/m3	0.60	1.72	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	20/04/23 - 21/04/23	ug/m3	0.50	1.43	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	20/04/23 - 21/04/23	ug/m3	0.80	2.47	3.16	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	20/04/23 - 21/04/23	ug/m3	0.06	0.17	<0.17	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	20/04/23 - 21/04/23	ug/m3	0.30	0.94	5.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	20/04/23 - 21/04/23	ug/m3	0.70	2.17	<2.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	20/04/23 - 21/04/23	ug/m3	0.60	2.05	<2.05	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	20/04/23 - 21/04/23	ug/m3	0.60	1.76	<1.76	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	20/04/23 - 21/04/23	ug/m3	0.40	1.15	<1.15	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

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**Sample Number** 2335279-4  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	20/04/23 - 21/04/23	ug/m3	0.50	1.39	3.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	20/04/23 - 21/04/23	ug/m3	1.50	4.34	<4.34	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	20/04/23 - 21/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	20/04/23 - 21/04/23	ug/m3	0.20	0.66	4.59	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	20/04/23 - 21/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	20/04/23 - 21/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	20/04/23 - 21/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	20/04/23 - 21/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	20/04/23 - 21/04/23	ug/m3	0.50	1.43	2.35	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	20/04/23 - 21/04/23	ug/m3	0.70	2.17	<2.17	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	20/04/23 - 21/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

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**Sample Number** : 2335279-4  
**Sampled Date** : Apr 20, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Pentane	20/04/23 - 21/04/23	ug/m3	0.50	1.48	1.53	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	20/04/23 - 21/04/23	ug/m3	0.50	1.19	<1.19	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	20/04/23 - 21/04/23	ug/m3	0.30	0.86	3.06	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	20/04/23 - 21/04/23	ug/m3	0.70	2.13	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	20/04/23 - 21/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	20/04/23 - 21/04/23	ug/m3	0.60	1.88	2.04	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	20/04/23 - 21/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	20/04/23 - 21/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	20/04/23 - 21/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	20/04/23 - 21/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	20/04/23 - 21/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636000-1

Page 8 of 8

**Sample Number** 2335279-4  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	20/04/23 - 21/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By** : Yongsil Rangsee

**Remark :**

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

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Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2636000-2

Page 1 of 1

**Sample Number** 2335279-4  
**Sampled Date** Apr 20, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	09:00 AM - 12:00 PM	ppm	-	1.0	2.3	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	1.0	4.4	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	-	6.7	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

Page 1 of 8

**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	21/04/23 - 22/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	21/04/23 - 22/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	21/04/23 - 22/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	21/04/23 - 22/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	21/04/23 - 22/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	21/04/23 - 22/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	21/04/23 - 22/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

Page 2 of 8

**Sample Number** : 2335279-5  
**Sampled Date** : Apr 21, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	21/04/23 - 22/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	21/04/23 - 22/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	21/04/23 - 22/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	21/04/23 - 22/04/23	ug/m3	0.04	0.11	0.18	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	21/04/23 - 22/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	21/04/23 - 22/04/23	ug/m3	0.10	0.36	Not Detected	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	21/04/23 - 22/04/23	ug/m3	0.50	1.52	4.00	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	21/04/23 - 22/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

Page 3 of 8

**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	21/04/23 - 22/04/23	ug/m3	0.40	1.23	<1.23	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	21/04/23 - 22/04/23	ug/m3	0.05	0.18	4.91	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	21/04/23 - 22/04/23	ug/m3	0.08	0.24	13.40	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	21/04/23 - 22/04/23	ug/m3	0.30	0.84	0.94	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	21/04/23 - 22/04/23	ug/m3	0.08	0.23	0.50	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	21/04/23 - 22/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	21/04/23 - 22/04/23	ug/m3	0.05	0.16	1.15	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	21/04/23 - 22/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

Page 4 of 8

**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	21/04/23 - 22/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	21/04/23 - 22/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	21/04/23 - 22/04/23	ug/m3	0.06	0.19	<0.19	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	21/04/23 - 22/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	21/04/23 - 22/04/23	ug/m3	0.05	0.16	0.50	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	21/04/23 - 22/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	21/04/23 - 22/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	21/04/23 - 22/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	21/04/23 - 22/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	21/04/23 - 22/04/23	ug/m3	0.08	0.24	<0.24	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	21/04/23 - 22/04/23	ug/m3	0.30	1.03	3.14	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

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**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	21/04/23 - 22/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	21/04/23 - 22/04/23	ug/m3	0.60	1.72	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	21/04/23 - 22/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	21/04/23 - 22/04/23	ug/m3	0.80	2.47	3.26	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	21/04/23 - 22/04/23	ug/m3	0.06	0.17	0.21	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	21/04/23 - 22/04/23	ug/m3	0.30	0.94	22.12	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	21/04/23 - 22/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	21/04/23 - 22/04/23	ug/m3	0.60	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	21/04/23 - 22/04/23	ug/m3	0.60	1.76	1.76	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	21/04/23 - 22/04/23	ug/m3	0.40	1.15	1.88	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

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**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	21/04/23 - 22/04/23	ug/m3	0.50	1.39	2.95	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	21/04/23 - 22/04/23	ug/m3	1.50	4.34	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	21/04/23 - 22/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	21/04/23 - 22/04/23	ug/m3	0.20	0.66	6.63	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	21/04/23 - 22/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	21/04/23 - 22/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	21/04/23 - 22/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	21/04/23 - 22/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	21/04/23 - 22/04/23	ug/m3	0.50	1.43	1.89	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	21/04/23 - 22/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	21/04/23 - 22/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

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**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Pentane	21/04/23 - 22/04/23	ug/m3	0.50	1.48	5.55	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	21/04/23 - 22/04/23	ug/m3	0.50	1.19	1.52	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	21/04/23 - 22/04/23	ug/m3	0.30	0.86	3.44	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	21/04/23 - 22/04/23	ug/m3	0.70	2.13	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	21/04/23 - 22/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	21/04/23 - 22/04/23	ug/m3	0.60	1.88	2.86	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	21/04/23 - 22/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	21/04/23 - 22/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	21/04/23 - 22/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	21/04/23 - 22/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	21/04/23 - 22/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636001-1

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**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	21/04/23 - 22/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By** : Yongsil Rangsee

**Remark :**

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

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Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2636001-2

Page 1 of 1

**Sample Number** 2335279-5  
**Sampled Date** Apr 21, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	09:00 AM - 12:00 PM	ppm	-	1.0	2.3	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	1.0	3.1	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	-	5.4	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)



## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

Page 1 of 8

**Sample Number** : 2335279-6  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,1,1-Trichloroethane	22/04/23 - 23/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2,2-Tetrachloroethane	22/04/23 - 23/04/23	ug/m3	0.10	0.34	Not Detected	83	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,1,2-Trichloro-1,2,2-Trifluoroethane	22/04/23 - 23/04/23	ug/m3	1.00	3.83	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1,2-Trichloroethane	22/04/23 - 23/04/23	ug/m3	0.90	2.73	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethane	22/04/23 - 23/04/23	ug/m3	0.70	2.02	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,1-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,3-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trichlorobenzene	22/04/23 - 23/04/23	ug/m3	1.20	3.71	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2,4-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,2-Dibromoethane	22/04/23 - 23/04/23	ug/m3	0.10	0.38	Not Detected	370	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

Page 2 of 8

**Sample Number** : 2335279-6  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
1,2-Dichloroethane	22/04/23 - 23/04/23	ug/m3	0.07	0.20	<0.20	48	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichloropropane	22/04/23 - 23/04/23	ug/m3	0.08	0.23	Not Detected	82	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,2-Dichlorotetrafluoroethane	22/04/23 - 23/04/23	ug/m3	1.20	3.50	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3,5-Trimethylbenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.46	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,3-Butadiene	22/04/23 - 23/04/23	ug/m3	0.04	0.11	0.18	5.3	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,3-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1,4-Dichlorobenzene	22/04/23 - 23/04/23	ug/m3	0.20	0.60	Not Detected	1100	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1,4-Dioxane	22/04/23 - 23/04/23	ug/m3	0.10	0.36	Not Detected	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
1-Butanol	22/04/23 - 23/04/23	ug/m3	0.50	1.52	4.91	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
1-Propanol	22/04/23 - 23/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Hexanone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

Page 3 of 8

**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
2-Pentanone	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
2-Propanol	22/04/23 - 23/04/23	ug/m3	0.40	1.23	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Hexanone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
3-Pentanone	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetaldehyde	22/04/23 - 23/04/23	ug/m3	0.05	0.18	3.82	860	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acetone	22/04/23 - 23/04/23	ug/m3	0.08	0.24	11.88	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acetonitrile	22/04/23 - 23/04/23	ug/m3	0.30	0.84	<0.84	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Acrolein	22/04/23 - 23/04/23	ug/m3	0.08	0.23	0.41	0.55	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Acrylonitrile	22/04/23 - 23/04/23	ug/m3	0.07	0.22	Not Detected	10	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzene	22/04/23 - 23/04/23	ug/m3	0.05	0.16	0.96	7.6	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Benzyl Chloride	22/04/23 - 23/04/23	ug/m3	0.17	0.52	Not Detected	12	Based on US EPA Compendium Method, TO-15	PCD	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

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**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Bromodichloromethane	22/04/23 - 23/04/23	ug/m3	1.00	3.35	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromoform	22/04/23 - 23/04/23	ug/m3	1.00	5.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Bromomethane	22/04/23 - 23/04/23	ug/m3	0.06	0.19	<0.19	190	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Butanal	22/04/23 - 23/04/23	ug/m3	0.49	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Carbon Disulfide	22/04/23 - 23/04/23	ug/m3	0.05	0.16	0.87	100	Based on US EPA Compendium Method, TO-15	NEB	Rayong
Carbon Tetrachloride	22/04/23 - 23/04/23	ug/m3	0.10	0.31	<0.31	150	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chlorobenzene	22/04/23 - 23/04/23	ug/m3	0.80	2.30	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chlorodifluoromethane (HCFC-22)	22/04/23 - 23/04/23	ug/m3	0.60	1.77	<1.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroethane	22/04/23 - 23/04/23	ug/m3	0.40	1.32	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Chloroform	22/04/23 - 23/04/23	ug/m3	0.08	0.24	<0.24	57	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Chloromethane	22/04/23 - 23/04/23	ug/m3	0.30	1.03	3.35	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

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**Sample Number** : 2335279-6  
**Sampled Date** : Apr 22, 2023  
**Sample Description** : Air Quality  
**Location** : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** : Apr 25, 2023  
**Condition of Sample** : Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
cis-1,2-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
cis-1,3-Dichloropropene	22/04/23 - 23/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclohexane	22/04/23 - 23/04/23	ug/m3	0.60	1.72	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Cyclopentane	22/04/23 - 23/04/23	ug/m3	0.50	1.43	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichlorodifluoromethane (CFC-112)	22/04/23 - 23/04/23	ug/m3	0.80	2.47	3.26	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Dichloromethane	22/04/23 - 23/04/23	ug/m3	0.06	0.17	<0.17	210	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Ethanol	22/04/23 - 23/04/23	ug/m3	0.30	0.94	9.12	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Ethyl Benzene	22/04/23 - 23/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexanal	22/04/23 - 23/04/23	ug/m3	0.60	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Hexane	22/04/23 - 23/04/23	ug/m3	0.60	1.76	<1.76	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Isobutene	22/04/23 - 23/04/23	ug/m3	0.40	1.15	3.08	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

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**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Isoprene	22/04/23 - 23/04/23	ug/m3	0.50	1.39	1.56	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
m,p-Xylene	22/04/23 - 23/04/23	ug/m3	1.50	4.34	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methacrolein	22/04/23 - 23/04/23	ug/m3	0.50	1.43	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methanol	22/04/23 - 23/04/23	ug/m3	0.20	0.66	6.03	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Ethyl Ketone	22/04/23 - 23/04/23	ug/m3	0.50	1.47	<1.47	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Iodide	22/04/23 - 23/04/23	ug/m3	0.90	2.90	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Isobutyl Ketone	22/04/23 - 23/04/23	ug/m3	0.70	2.05	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl tert butyl ether	22/04/23 - 23/04/23	ug/m3	0.60	1.80	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Methyl Vinyl Ketone	22/04/23 - 23/04/23	ug/m3	0.50	1.43	<1.43	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
o-Xylene	22/04/23 - 23/04/23	ug/m3	0.70	2.17	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Pentanal	22/04/23 - 23/04/23	ug/m3	0.50	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

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**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Pentane	22/04/23 - 23/04/23	ug/m3	0.50	1.48	2.77	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propanal	22/04/23 - 23/04/23	ug/m3	0.50	1.19	<1.19	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Propene (Propylene)	22/04/23 - 23/04/23	ug/m3	0.30	0.86	8.05	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Styrene	22/04/23 - 23/04/23	ug/m3	0.70	2.13	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Tetrachloroethylene	22/04/23 - 23/04/23	ug/m3	0.11	0.34	Not Detected	400	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Toluene	22/04/23 - 23/04/23	ug/m3	0.60	1.88	<1.88	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,2-Dichloroethene	22/04/23 - 23/04/23	ug/m3	0.70	1.98	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
trans-1,3-Dichloropropene	22/04/23 - 23/04/23	ug/m3	0.80	2.27	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Trichloroethylene	22/04/23 - 23/04/23	ug/m3	0.09	0.27	Not Detected	130	Based on US EPA Compendium Method, TO-15	PCD	Rayong
Trichlorofluoromethane (F-11)	22/04/23 - 23/04/23	ug/m3	0.90	2.81	<2.81	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong
Vinyl Acetate	22/04/23 - 23/04/23	ug/m3	0.60	1.76	Not Detected	No Standard	Based on US EPA Compendium Method, TO-15	-	Rayong

Approved by

Dej Changchon  
Senior Manager

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O :** 4170008459

**Project Name :**

**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : Apr 28, 2023

Report Number : 2636002-1

Page 8 of 8

**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Vinyl Chloride	22/04/23 - 23/04/23	ug/m3	0.04	0.13	Not Detected	20	Based on US EPA Compendium Method, TO-15	PCD	Rayong

**Guideline :**

NEB : Notification of National Environment Board, B.E. 2560 (2017)

PCD : Notification of the Pollution Control Department, which was published in the Royal Government Gazette Vol. 126 Special Part 13 D dated January 27, B.E. 2552 (2009).

**Sampled By :** Yongsil Rangsee

**Remark :**

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

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Approved by

Dej Changchon  
Senior Manager



## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok 10260

**P/O** : 4170008459

**Project Name** :

**Project Location** : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335279**

Date Received : Apr 24, 2023

Date Reported : May 11, 2023

Report Number : 2636002-2

Page 1 of 1

**Sample Number** 2335279-6  
**Sampled Date** Apr 22, 2023  
**Sample Description** Air Quality  
**Location** บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
**Date Analysis Commenced** Apr 25, 2023  
**Condition of Sample** Drawn into one 6-L Canister and one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Methane	09:00 AM - 12:00 PM	ppm	-	1.0	2.2	EPA 40 CFR Part 50, Appendix C	Bangkok
Non-Methane Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	1.0	3.6	EPA 40 CFR Part 50, Appendix C	Bangkok
Total Hydrocarbon	09:00 AM - 12:00 PM	ppm	-	-	5.8	EPA 40 CFR Part 50	Bangkok

**Sampled By** : Yongsil Rangsee

Remark :

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

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Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Lot ID : 2335281  
Date Received : Apr 24, 2023  
Date Reported : Apr 26, 2023  
Report Number : 2607387-1

Page 1 of 2

Sample Number : 2335281-1 to 3  
Parameter : Wind Speed / Wind Direction  
Location : บริเวณพื้นที่โครงการ (GPS 47P 540003, 1014668)  
Sampling Date : Apr 20 - Apr 23, 2023  
Sampling by : Yongsil Rangsee

Time	Apr 20 - Apr 21, 2023			Apr 21 - Apr 22, 2023			Apr 22 - Apr 23, 2023			-			-			-			-		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		-	-		-	-		-	-		-	-	
10:00 AM - 11:00 AM	1.3	138.0	SE	1.2	175.0	S	1.4	191.0	S	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM - 12:00 PM	0.6	222.0	SW	1.6	201.0	SSW	3.7	307.0	NW	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM - 01:00 PM	2.7	298.0	WNW	0.9	243.0	WSW	1.0	328.0	NNW	-	-	-	-	-	-	-	-	-	-	-	-
01:00 PM - 02:00 PM	1.5	292.0	WNW	3.2	285.0	WNW	2.6	303.0	WNW	-	-	-	-	-	-	-	-	-	-	-	-
02:00 PM - 03:00 PM	1.9	190.0	S	3.0	335.0	NNW	3.1	10.0	N	-	-	-	-	-	-	-	-	-	-	-	-
03:00 PM - 04:00 PM	1.1	359.0	N	3.9	331.0	NNW	2.2	35.0	NE	-	-	-	-	-	-	-	-	-	-	-	-
04:00 PM - 05:00 PM	2.1	354.0	N	4.4	359.0	N	3.6	45.0	NE	-	-	-	-	-	-	-	-	-	-	-	-
05:00 PM - 06:00 PM	3.1	119.0	ESE	2.6	324.0	NW	2.8	47.0	NE	-	-	-	-	-	-	-	-	-	-	-	-
06:00 PM - 07:00 PM	3.8	285.0	WNW	2.6	218.0	SW	1.6	103.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
07:00 PM - 08:00 PM	1.4	302.0	WNW	1.9	91.0	E	3.8	168.0	SSE	-	-	-	-	-	-	-	-	-	-	-	-
08:00 PM - 09:00 PM	1.1	277.0	W	1.6	139.0	SE	0.9	109.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
09:00 PM - 10:00 PM	1.6	274.0	W	0.6	105.0	ESE	1.6	109.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM - 11:00 PM	1.6	209.0	SSW	1.1	112.0	ESE	2.3	91.0	E	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM - 12:00 AM	0.7	254.0	WSW	2.1	144.0	SE	1.0	110.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 01:00 AM	1.2	111.0	ESE	1.5	166.0	SSE	2.0	105.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
01:00 AM - 02:00 AM	0.6	118.0	ESE	1.9	182.0	S	1.2	99.0	E	-	-	-	-	-	-	-	-	-	-	-	-
02:00 AM - 03:00 AM	1.8	133.0	SE	0.9	145.0	SE	0.7	106.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
03:00 AM - 04:00 AM	1.3	107.0	ESE	0.8	140.0	SE	0.6	150.0	SSE	-	-	-	-	-	-	-	-	-	-	-	-
04:00 AM - 05:00 AM	2.7	149.0	SSE	0.5	155.0	SSE	1.1	126.0	SE	-	-	-	-	-	-	-	-	-	-	-	-
05:00 AM - 06:00 AM	1.5	139.0	SE	0.8	184.0	S	0.8	95.0	E	-	-	-	-	-	-	-	-	-	-	-	-
06:00 AM - 07:00 AM	1.4	149.0	SSE	0.8	179.0	S	0.6	114.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
07:00 AM - 08:00 AM	1.7	145.0	SE	0.9	159.0	SSE	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08:00 AM - 09:00 AM	1.7	135.0	SE	1.2	165.0	SSE	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09:00 AM - 10:00 AM	3.4	212.0	SSW	2.5	188.0	S	1.0	193.0	SSW	-	-	-	-	-	-	-	-	-	-	-	-

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jittranont  
Assistant General Manager



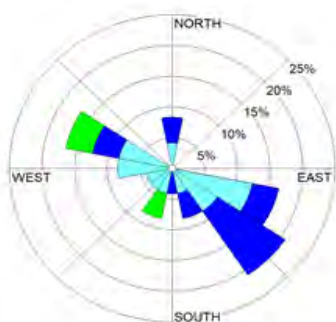
## Analysis / Test Report

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

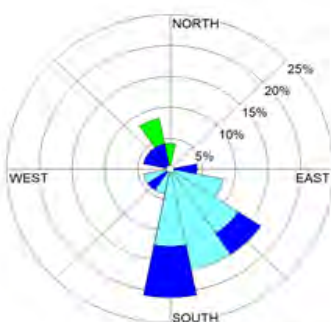
Lot ID : 2335281  
Date Received : Apr 24, 2023  
Date Reported : Apr 26, 2023  
Report Number : 2607387-1

Page 2 of 2

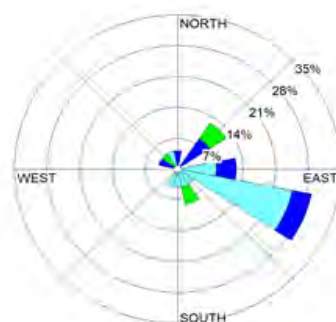
### Wind Rose



Date : Apr 20-21, 2023



Date : Apr 21-22, 2023



Date : Apr 22-23, 2023



Date : Apr 20-23, 2023

WS(m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	0.00
3.3-5.5	9.72
1.7-3.3	30.56
0.3-1.7	56.94
Calms	2.78

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Approved by

Sarayuth Jittrantont  
Assistant General Manager



## Analysis / Test Report

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Lot ID : 2335281  
Date Received : Apr 24, 2023  
Date Reported : Apr 26, 2023  
Report Number : 2607387-1

Page 1 of 2

Sample Number : 2335281-4 to 6  
Parameter : Wind Speed / Wind Direction  
Location : บริเวณบ้านพักอาศัยริม ทล.4079 (GPS 47P 540110, 1014433)  
Sampling Date : Apr 20 - Apr 23, 2023  
Sampling by : Yongsil Rangsee

Time	Apr 20 - Apr 21, 2023			Apr 21 - Apr 22, 2023			Apr 22 - Apr 23, 2023			-			-			-			-		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		-	-		-	-		-	-		-	-	
09:00 AM - 10:00 AM	2.0	260.0	W	1.7	229.0	SW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 AM - 11:00 AM	1.0	339.0	NNW	1.2	305.0	NW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM - 12:00 PM	1.3	4.0	N	1.6	357.0	N	3.8	17.0	NNE	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM - 01:00 PM	3.3	303.0	WNW	2.7	24.0	NNE	2.7	53.0	NE	-	-	-	-	-	-	-	-	-	-	-	-
01:00 PM - 02:00 PM	1.5	8.0	N	2.9	4.0	N	2.8	357.0	N	-	-	-	-	-	-	-	-	-	-	-	-
02:00 PM - 03:00 PM	2.4	359.0	N	2.5	29.0	NNE	4.5	126.0	SE	-	-	-	-	-	-	-	-	-	-	-	-
03:00 PM - 04:00 PM	2.0	32.0	NNE	5.0	19.0	NNE	1.1	132.0	SE	-	-	-	-	-	-	-	-	-	-	-	-
04:00 PM - 05:00 PM	1.9	153.0	SSE	3.8	71.0	ENE	0.5	103.0	ESE	-	-	-	-	-	-	-	-	-	-	-	-
05:00 PM - 06:00 PM	1.0	230.0	SW	2.5	327.0	NNW	0.8	174.0	S	-	-	-	-	-	-	-	-	-	-	-	-
06:00 PM - 07:00 PM	1.8	47.0	NE	5.5	243.0	WSW	4.7	242.0	WSW	-	-	-	-	-	-	-	-	-	-	-	-
07:00 PM - 08:00 PM	1.8	50.0	NE	1.1	178.0	S	0.8	197.0	SSW	-	-	-	-	-	-	-	-	-	-	-	-
08:00 PM - 09:00 PM	0.5	341.0	NNW	1.8	236.0	SW	1.0	185.0	S	-	-	-	-	-	-	-	-	-	-	-	-
09:00 PM - 10:00 PM	0.0	-	-	0.6	198.0	SSW	0.7	203.0	SSW	-	-	-	-	-	-	-	-	-	-	-	-
10:00 PM - 11:00 PM	0.0	-	-	0.5	195.0	SSW	0.6	231.0	SW	-	-	-	-	-	-	-	-	-	-	-	-
11:00 PM - 12:00 AM	0.0	-	-	1.1	244.0	WSW	1.1	184.0	S	-	-	-	-	-	-	-	-	-	-	-	-
12:00 AM - 01:00 AM	0.0	-	-	0.7	192.0	SSW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01:00 AM - 02:00 AM	1.7	162.0	SSE	1.6	193.0	SSW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02:00 AM - 03:00 AM	1.0	165.0	SSE	0.5	205.0	SSW	0.6	193.0	SSW	-	-	-	-	-	-	-	-	-	-	-	-
03:00 AM - 04:00 AM	0.9	196.0	SSW	0.7	197.0	SSW	0.7	184.0	S	-	-	-	-	-	-	-	-	-	-	-	-
04:00 AM - 05:00 AM	1.6	242.0	WSW	0.0	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05:00 AM - 06:00 AM	1.6	197.0	SSW	0.3	282.0	WNW	0.6	147.0	SSE	-	-	-	-	-	-	-	-	-	-	-	-
06:00 AM - 07:00 AM	1.5	194.0	SSW	0.5	225.0	SW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07:00 AM - 08:00 AM	1.3	225.0	SW	0.4	193.0	SSW	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08:00 AM - 09:00 AM	1.1	202.0	SSW	1.4	203.0	SSW	0.6	259.0	W	-	-	-	-	-	-	-	-	-	-	-	-

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jittranont  
Assistant General Manager





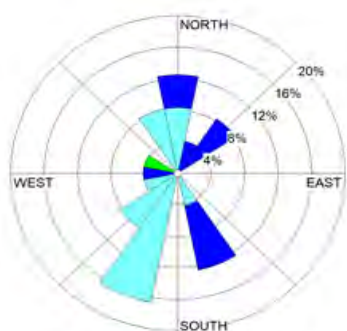
## Analysis / Test Report

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

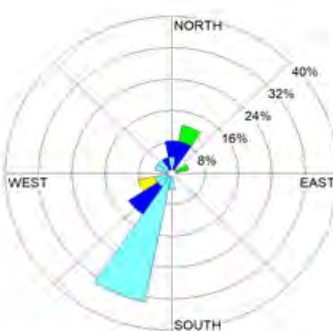
Lot ID : 2335281  
Date Received : Apr 24, 2023  
Date Reported : Apr 26, 2023  
Report Number : 2607387-1

Page 2 of 2

### Wind Rose



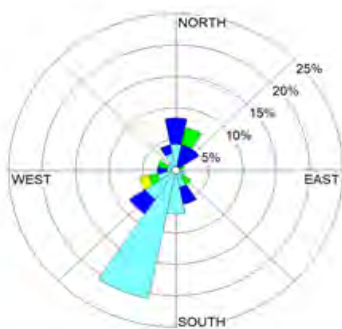
Date : Apr 20-21, 2023



Date : Apr 21-22, 2023



Date : Apr 22-23, 2023



Date : Apr 20-23, 2023

	WS(m/s)	%
	$\geq 10.0$	0.00
	8.0-10.0	0.00
	5.5-8.0	1.39
	3.3-5.5	8.33
	1.7-3.3	20.83
	0.3-1.7	52.78
	Calms	16.67

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Approved by

Sarayuth Jitranont  
Assistant General Manager





บริษัท ปตท. น้ำมันและการค้าปลีก จำกัด (มหาชน)

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการทำเทียบเรือขนถ่ายน้ำมันและก๊าซปิโตรเลียมเหลวสุราษฎร์ธานี แห่งที่ 2

ระหว่างเดือนมกราคมถึงมิถุนายน พ.ศ. 2566

คุณภาพเสียง



## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
**P/O :** 4170008459  
**Project Name :**  
**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335283**

Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number: 2638671-1

Page 1 of 1

**Sample Number** 2335283-1  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
**Measurement Date** Apr 20 - Apr 21, 2023  
**Measurement by** Yongsil Rangsee  
**Sound Level meter** Serial No. 472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	62.6	84.5	58.6
09:00 AM - 10:00 AM	62.3	84.1	57.0
10:00 AM - 11:00 AM	61.5	82.7	56.4
11:00 AM - 12:00 PM	62.0	82.2	57.4
12:00 PM - 01:00 PM	61.2	80.9	56.0
01:00 PM - 02:00 PM	63.4	78.7	59.7
02:00 PM - 03:00 PM	62.2	79.2	60.0
03:00 PM - 04:00 PM	61.2	89.1	50.5
04:00 PM - 05:00 PM	55.8	78.9	46.1
05:00 PM - 06:00 PM	56.3	79.3	46.5
06:00 PM - 07:00 PM	55.4	75.8	46.6
07:00 PM - 08:00 PM	51.9	73.4	43.5
08:00 PM - 09:00 PM	58.1	86.8	42.6
09:00 PM - 10:00 PM	50.1	71.2	40.7
10:00 PM - 11:00 PM	49.4	76.2	41.1
11:00 PM - 12:00 AM	47.8	71.4	41.2
12:00 AM - 01:00 AM	44.7	67.5	40.7
01:00 AM - 02:00 AM	41.5	63.6	39.1
02:00 AM - 03:00 AM	46.1	76.2	38.9
03:00 AM - 04:00 AM	42.3	56.6	40.2
04:00 AM - 05:00 AM	45.8	67.4	41.1
05:00 AM - 06:00 AM	51.1	68.8	46.3
06:00 AM - 07:00 AM	54.3	81.3	46.4
07:00 AM - 08:00 AM	57.1	73.7	49.1

Leq Average 24 hrs. (dB(A)) 58.3  
Lmax (dB(A)) 89.1  
L90 (dB(A)) 46.3  
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 และระดับเสียงที่เกิดจากการประกอบกิจการ  
โรงงาน พ.ศ. 2548

**Technical Management**

Tanyatorn Mongkonjirawut  
Supervisor

**Approved by**

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
**P/O :** 4170008459  
**Project Name :**  
**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335283**

Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number: 2638672-1

Page 1 of 1

**Sample Number** 2335283-2  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
**Measurement Date** Apr 21 - Apr 22, 2023  
**Measurement by** Yongsil Rangsee  
**Sound Level meter** Serial No. 472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	61.8	82.2	57.8
09:00 AM - 10:00 AM	61.8	79.9	56.8
10:00 AM - 11:00 AM	62.4	83.3	57.2
11:00 AM - 12:00 PM	61.1	81.4	57.6
12:00 PM - 01:00 PM	57.2	80.5	47.7
01:00 PM - 02:00 PM	57.1	77.8	46.1
02:00 PM - 03:00 PM	56.8	81.1	46.3
03:00 PM - 04:00 PM	58.4	80.8	51.0
04:00 PM - 05:00 PM	54.9	73.3	47.7
05:00 PM - 06:00 PM	56.5	75.9	48.3
06:00 PM - 07:00 PM	55.9	81.3	47.2
07:00 PM - 08:00 PM	52.9	75.7	42.7
08:00 PM - 09:00 PM	51.1	71.9	42.9
09:00 PM - 10:00 PM	50.7	78.7	41.3
10:00 PM - 11:00 PM	47.8	69.4	41.8
11:00 PM - 12:00 AM	53.0	73.6	43.3
12:00 AM - 01:00 AM	46.9	64.2	44.9
01:00 AM - 02:00 AM	50.2	77.4	47.9
02:00 AM - 03:00 AM	50.1	68.6	48.1
03:00 AM - 04:00 AM	48.9	65.9	47.5
04:00 AM - 05:00 AM	51.1	73.2	47.9
05:00 AM - 06:00 AM	52.8	69.2	49.5
06:00 AM - 07:00 AM	56.9	84.0	49.9
07:00 AM - 08:00 AM	58.3	80.8	51.2

Leq Average 24 hrs. (dB(A)) 57.0  
Lmax (dB(A)) 84.0  
L90 (dB(A)) 47.7  
Ldn (dB(A)) 60.1  
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**

Tanyatorn Mongkonjirawut  
Supervisor

**Approved by**

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260  
**P/O :** 4170008459  
**Project Name :**  
**Project Location :** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

**Lot ID: 2335283**

Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number: 2638673-1

Page 1 of 1

**Sample Number** 2335283-3  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
**Measurement Date** Apr 22 - Apr 23, 2023  
**Measurement by** Yongsil Rangsee  
**Sound Level meter** Serial No. 472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	58.0	77.6	51.6
09:00 AM - 10:00 AM	58.9	82.1	53.2
10:00 AM - 11:00 AM	60.7	87.6	49.0
11:00 AM - 12:00 PM	55.1	77.4	46.5
12:00 PM - 01:00 PM	53.9	77.3	44.6
01:00 PM - 02:00 PM	54.3	73.8	46.1
02:00 PM - 03:00 PM	57.4	80.9	47.3
03:00 PM - 04:00 PM	56.1	79.3	47.2
04:00 PM - 05:00 PM	56.1	77.7	48.6
05:00 PM - 06:00 PM	55.9	77.8	46.4
06:00 PM - 07:00 PM	58.4	87.8	48.6
07:00 PM - 08:00 PM	52.8	77.8	44.0
08:00 PM - 09:00 PM	51.8	69.6	44.1
09:00 PM - 10:00 PM	50.9	80.0	43.8
10:00 PM - 11:00 PM	49.3	76.5	43.4
11:00 PM - 12:00 AM	53.2	73.5	45.7
12:00 AM - 01:00 AM	52.7	75.5	48.6
01:00 AM - 02:00 AM	49.1	62.4	48.4
02:00 AM - 03:00 AM	48.9	63.8	48.0
03:00 AM - 04:00 AM	53.6	76.9	48.3
04:00 AM - 05:00 AM	50.8	69.0	48.0
05:00 AM - 06:00 AM	54.2	80.8	49.2
06:00 AM - 07:00 AM	56.9	79.8	50.0
07:00 AM - 08:00 AM	54.3	77.3	49.4

Leq Average 24 hrs. (dB(A)) 55.4  
Lmax (dB(A)) 87.8  
L90 (dB(A)) 48.0  
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 และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

**Technical Management**

Tanyatorn Mongkonjirawut  
Supervisor

**Approved by**

Supot Salamteh  
Section Head

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## Analysis / Test Report

TESTING

No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335284  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number : 2638427-1

P/O : 4170008459

Project Name :

Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 1

Sample No. 2335284-1  
Parameter เสียงรบกวน  
Location บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
Measurement Date Apr 20, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

### ระดับเสียง (dB(A))

เวลา	เสียงจาก แหล่งกำเนิด <sup>(A)</sup>	เสียงขณะ ไม่มีการรบกวน <sup>(B)</sup>	ผลต่าง ระดับเสียง <sup>(A-B)</sup>	ตัวปรับค่า <sup>(C)</sup>	ปรับค่าเสียงจากแหล่งกำเนิด <sup>(B)</sup>		เสียงพื้นฐาน <sup>(E)</sup>	ค่าระดับ การรบกวน <sup>(D-E)</sup>
					กลางวัน <sup>(A-C)</sup>	กลางคืน <sup>(A-C)+3</sup>		
08:00 AM - 09:00 AM	62.6	54.3	8.3	0.5	62.1	-	46.4	15.7
09:00 AM - 10:00 AM	62.3	54.3	8.0	0.5	61.8	-	46.4	15.4
10:00 AM - 11:00 AM	61.5	54.3	7.2	1.0	60.5	-	46.4	14.1
11:00 AM - 12:00 PM	62.0	54.3	7.7	0.5	61.5	-	46.4	15.1
12:00 PM - 01:00 PM	61.2	54.3	6.9	1.0	60.2	-	46.4	13.8
01:00 PM - 02:00 PM	63.4	54.3	9.1	0.5	62.9	-	46.4	16.5
02:00 PM - 03:00 PM	62.2	54.3	7.9	0.5	61.7	-	46.4	15.3
03:00 PM - 04:00 PM	61.2	54.3	6.9	1.0	60.2	-	46.4	13.8
04:00 PM - 05:00 PM	55.8	54.3	1.5	4.5	51.3	-	46.4	4.9
ค่ามาตรฐาน								≤ 10

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

### มาตรฐาน

- ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548
- ประกาศกรมโรงงานอุตสาหกรรม เรื่อง วิธีการตรวจวัดระดับเสียงรบกวน ระดับเสียงเฉลี่ย 24 ชั่วโมง และระดับเสียงสูงสุดที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2553
- ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่ามาตรฐานมลพิษทางเสียงอันเกิดจากการประกอบกิจการที่เป็นอันตรายต่อสุขภาพ พ.ศ. 2561  
ระดับเสียงจากแหล่งกำเนิด ทำการตรวจวัด วันที่ 20 เมษายน 2566 (08:00 - 17:00 น.)  
ระดับเสียงพื้นฐานและระดับเสียงขณะไม่มีการรบกวน (Sample No.2335285-1 วันที่ตรวจวัด 20-21 เมษายน 2566)

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

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

### TESTING

No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335284  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number : 2638428-1

P/O : 4170008459

Project Name :

Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 1

Sample No. 2335284-2  
Parameter เสียงรบกวน  
Location บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
Measurement Date Apr 21, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

### ระดับเสียง (dB(A))

เวลา	เสียงจาก แหล่งกำเนิด <sup>(A)</sup>	เสียงขณะ ไม่มีการรบกวน <sup>(B)</sup>	ผลต่าง ระดับเสียง <sup>(A-B)</sup>	ตัวปรับค่า <sup>(C)</sup>	ปรับค่าเสียงจากแหล่งกำเนิด <sup>(B)</sup>		เสียงพื้นฐาน <sup>(E)</sup>	ค่าระดับ การรบกวน <sup>(D-E)</sup>
					กลางวัน <sup>(A-C)</sup>	กลางคืน <sup>(A-C)+3</sup>		
08:00 AM - 09:00 AM	61.8	55.9	5.9	1.5	60.3	-	47.2	13.1
09:00 AM - 10:00 AM	61.8	55.9	5.9	1.5	60.3	-	47.2	13.1
10:00 AM - 11:00 AM	62.4	55.9	6.5	1.0	61.4	-	47.2	14.2
11:00 AM - 12:00 PM	61.1	55.9	5.2	1.5	59.6	-	47.2	12.4
12:00 PM - 01:00 PM	57.2	55.9	1.3	7.0	50.2	-	47.2	3.0
01:00 PM - 02:00 PM	57.1	55.9	1.2	7.0	50.1	-	47.2	2.9
02:00 PM - 03:00 PM	56.8	55.9	0.9	7.0	49.8	-	47.2	2.6
03:00 PM - 04:00 PM	58.4	55.9	2.5	3.0	55.4	-	47.2	8.2
04:00 PM - 05:00 PM	54.9	55.9	-1.0	7.0	47.9	-	47.2	0.7
ค่ามาตรฐาน								≤ 10

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

### มาตรฐาน

- ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548
- ประกาศกรมโรงงานอุตสาหกรรม เรื่อง วิธีการตรวจวัดระดับเสียงรบกวน ระดับเสียงเฉลี่ย 24 ชั่วโมง และระดับเสียงสูงสุดที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2553
- ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่ามาตรฐานมลพิษทางเสียงอันเกิดจากการประกอบกิจการที่เป็นอันตรายต่อสุขภาพ พ.ศ. 2561  
ระดับเสียงจากแหล่งกำเนิด ทำการตรวจวัด วันที่ 21 เมษายน 2566 (08:00 - 17:00 น.)  
ระดับเสียงพื้นฐานและระดับเสียงขณะไม่มีการรบกวน (Sample No.2335285-2 วันที่ตรวจวัด 21-22 เมษายน 2566)

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

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

### TESTING

No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335284  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report Number : 2638429-1

P/O : 4170008459

Project Name :

Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 1

Sample No. 2335284-3  
Parameter เสียงรบกวน  
Location บริเวณเริ่มรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497)  
Measurement Date Apr 22, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

### ระดับเสียง (dB(A))

เวลา	เสียงจาก แหล่งกำเนิด <sup>(A)</sup>	เสียงขณะ ไม่มีการรบกวน <sup>(B)</sup>	ผลต่าง ระดับเสียง <sup>(A-B)</sup>	ตัวปรับค่า <sup>(C)</sup>	ปรับค่าเสียงจากแหล่งกำเนิด <sup>(B)</sup>		เสียงพื้นฐาน <sup>(E)</sup>	ค่าระดับ การรบกวน <sup>(D-E)</sup>
					กลางวัน <sup>(A-C)</sup>	กลางคืน <sup>(A-C)+3</sup>		
08:00 AM - 09:00 AM	58.0	55.9	2.1	4.5	53.5	-	46.4	7.1
09:00 AM - 10:00 AM	58.9	55.9	3.0	3.0	55.9	-	46.4	9.5
10:00 AM - 11:00 AM	60.7	55.9	4.8	1.5	59.2	-	46.4	12.8
11:00 AM - 12:00 PM	55.1	55.9	-0.8	7.0	48.1	-	46.4	1.7
12:00 PM - 01:00 PM	53.9	55.9	-2.0	7.0	46.9	-	46.4	0.5
01:00 PM - 02:00 PM	54.3	55.9	-1.6	7.0	47.3	-	46.4	0.9
02:00 PM - 03:00 PM	57.4	55.9	1.5	4.5	52.9	-	46.4	6.5
03:00 PM - 04:00 PM	56.1	55.9	0.2	7.0	49.1	-	46.4	2.7
04:00 PM - 05:00 PM	56.1	55.9	0.2	7.0	49.1	-	46.4	2.7
ค่ามาตรฐาน								≤ 10

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

### มาตรฐาน

- ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548
- ประกาศกรมโรงงานอุตสาหกรรม เรื่อง วิธีการตรวจวัดระดับเสียงรบกวน ระดับเสียงเฉลี่ย 24 ชั่วโมง และระดับเสียงสูงสุดที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2553
- ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่ามาตรฐานมลพิษทางเสียงอันเกิดจากการประกอบกิจการที่เป็นอันตรายต่อสุขภาพ พ.ศ. 2561  
ระดับเสียงจากแหล่งกำเนิด ทำการตรวจวัด วันที่ 22 เมษายน 2566 (08:00 - 17:00 น.)  
ระดับเสียงพื้นฐานและระดับเสียงขณะไม่มีการรบกวน (Sample No.2335285-3 วันที่ตรวจวัด 22-23 เมษายน 2566)

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

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager





## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638430-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 3

Sample No. 2335285-1  
Parameter Noise  
Location บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 20 - 21, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
05:00 PM - 06:00 PM	56.3	79.3	46.5
06:00 PM - 07:00 PM	55.4	75.8	46.6
07:00 PM - 08:00 PM	51.9	73.4	43.5
08:00 PM - 09:00 PM	58.1	86.8	42.6
09:00 PM - 10:00 PM	50.1	71.2	40.7
10:00 PM - 10:05 PM	51.4	63.5	40.5
10:05 PM - 10:10 PM	47.6	63.5	41.8
10:10 PM - 10:15 PM	46.5	60.1	41.5
10:15 PM - 10:20 PM	48.8	65.2	40.7
10:20 PM - 10:25 PM	50.5	72.4	40.5
10:25 PM - 10:30 PM	55.4	76.2	40.4
10:30 PM - 10:35 PM	46.8	59.2	41.9
10:35 PM - 10:40 PM	44.0	58.0	40.9
10:40 PM - 10:45 PM	46.8	65.3	40.9
10:45 PM - 10:50 PM	41.7	48.5	40.6
10:50 PM - 10:55 PM	46.3	65.2	40.9
10:55 PM - 11:00 PM	49.7	68.6	41.7
11:00 PM - 11:05 PM	42.8	51.4	40.3
11:05 PM - 11:10 PM	46.4	64.1	40.5
11:10 PM - 11:15 PM	53.5	71.4	40.8
11:15 PM - 11:20 PM	43.4	55.9	40.6
11:20 PM - 11:25 PM	44.6	58.9	40.8
11:25 PM - 11:30 PM	46.8	61.5	41.1
11:30 PM - 11:35 PM	47.3	61.4	41.2
11:35 PM - 11:40 PM	47.2	64.3	41.5
11:40 PM - 11:45 PM	50.3	69.0	41.7
11:45 PM - 11:50 PM	44.3	54.1	41.8
11:50 PM - 11:55 PM	48.8	65.9	41.8
11:55 PM - 12:00 AM	43.8	49.1	42.0
12:00 AM - 12:05 AM	42.9	49.7	41.5
12:05 AM - 12:10 AM	48.5	56.7	44.3
12:10 AM - 12:15 AM	44.5	56.4	41.8
12:15 AM - 12:20 AM	42.2	48.2	40.8
12:20 AM - 12:25 AM	51.1	67.5	41.0
12:25 AM - 12:30 AM	41.4	49.8	40.4
12:30 AM - 12:35 AM	42.1	50.3	39.2
12:35 AM - 12:40 AM	39.9	49.6	38.8
12:40 AM - 12:45 AM	40.2	50.1	38.9
12:45 AM - 12:50 AM	40.9	50.9	38.9
12:50 AM - 12:55 AM	41.3	51.8	39.5

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Approved by

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638430-1

P/O : 4170008459  
Project Name :  
Project Location : คลังยี่โดรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 2 of 3

Sample No. 2335285-1  
Parameter Noise  
Location บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 20 - 21, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:55 AM - 01:00 AM	40.4	49.3	39.3
01:00 AM - 01:05 AM	42.5	63.6	39.3
01:05 AM - 01:10 AM	40.4	48.9	39.1
01:10 AM - 01:15 AM	40.0	48.9	38.8
01:15 AM - 01:20 AM	40.1	48.0	39.1
01:20 AM - 01:25 AM	43.4	54.8	39.4
01:25 AM - 01:30 AM	40.8	48.2	39.8
01:30 AM - 01:35 AM	40.2	48.6	39.1
01:35 AM - 01:40 AM	44.5	61.0	38.8
01:40 AM - 01:45 AM	41.5	51.7	39.3
01:45 AM - 01:50 AM	40.9	48.4	39.2
01:50 AM - 01:55 AM	40.7	49.7	39.2
01:55 AM - 02:00 AM	39.6	49.8	38.4
02:00 AM - 02:05 AM	42.5	59.0	38.5
02:05 AM - 02:10 AM	39.5	50.1	38.5
02:10 AM - 02:15 AM	55.4	76.2	38.9
02:15 AM - 02:20 AM	40.0	48.3	39.0
02:20 AM - 02:25 AM	39.9	49.2	38.6
02:25 AM - 02:30 AM	39.8	49.0	38.7
02:30 AM - 02:35 AM	39.8	50.1	38.7
02:35 AM - 02:40 AM	39.6	47.9	38.5
02:40 AM - 02:45 AM	39.6	47.7	38.8
02:45 AM - 02:50 AM	41.4	51.5	39.3
02:50 AM - 02:55 AM	44.5	59.9	39.2
02:55 AM - 03:00 AM	41.4	49.1	39.4
03:00 AM - 03:05 AM	40.8	49.6	39.1
03:05 AM - 03:10 AM	40.6	49.8	39.3
03:10 AM - 03:15 AM	41.9	50.6	39.9
03:15 AM - 03:20 AM	41.4	49.9	40.0
03:20 AM - 03:25 AM	46.2	55.0	41.2
03:25 AM - 03:30 AM	43.3	49.5	41.8
03:30 AM - 03:35 AM	41.6	56.6	40.5
03:35 AM - 03:40 AM	40.9	48.7	39.9
03:40 AM - 03:45 AM	40.8	49.7	39.6
03:45 AM - 03:50 AM	42.3	50.4	40.5
03:50 AM - 03:55 AM	41.8	49.6	40.2
03:55 AM - 04:00 AM	41.8	49.6	40.1
04:00 AM - 04:05 AM	49.6	65.3	40.7
04:05 AM - 04:10 AM	45.8	62.3	40.6
04:10 AM - 04:15 AM	41.9	48.9	40.2

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

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638430-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 3 of 3

Sample No. 2335285-1  
Parameter Noise  
Location บริเวณรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 20 - 21, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:15 AM - 04:20 AM	45.8	61.8	41.0
04:20 AM - 04:25 AM	42.9	50.8	41.0
04:25 AM - 04:30 AM	42.8	52.5	40.7
04:30 AM - 04:35 AM	43.0	53.4	41.0
04:35 AM - 04:40 AM	43.4	55.3	41.1
04:40 AM - 04:45 AM	43.9	52.9	41.1
04:45 AM - 04:50 AM	50.3	67.4	41.7
04:50 AM - 04:55 AM	43.8	58.0	41.6
04:55 AM - 05:00 AM	45.7	58.8	42.0
05:00 AM - 05:05 AM	49.6	64.6	43.0
05:05 AM - 05:10 AM	47.7	64.0	42.5
05:10 AM - 05:15 AM	50.1	66.6	42.4
05:15 AM - 05:20 AM	52.4	65.0	45.6
05:20 AM - 05:25 AM	48.4	64.3	43.3
05:25 AM - 05:30 AM	50.0	64.2	44.0
05:30 AM - 05:35 AM	49.4	62.0	45.3
05:35 AM - 05:40 AM	49.0	60.0	45.9
05:40 AM - 05:45 AM	50.3	63.1	46.4
05:45 AM - 05:50 AM	54.1	68.8	48.6
05:50 AM - 05:55 AM	53.5	66.5	49.4
05:55 AM - 06:00 AM	53.1	64.0	49.9
06:00 AM - 07:00 AM	54.3	81.3	46.4
07:00 AM - 08:00 AM	57.1	73.7	49.1

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

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

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638431-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 3

Sample No. 2335285-2  
Parameter Noise  
Location บริเวณริมรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 21 - 22, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
05:00 PM - 06:00 PM	56.5	75.9	48.3
06:00 PM - 07:00 PM	55.9	81.3	47.2
07:00 PM - 08:00 PM	52.9	75.7	42.7
08:00 PM - 09:00 PM	51.1	71.9	42.9
09:00 PM - 10:00 PM	50.7	78.7	41.3
10:00 PM - 10:05 PM	50.4	65.0	40.0
10:05 PM - 10:10 PM	43.3	52.4	41.2
10:10 PM - 10:15 PM	47.9	63.2	41.1
10:15 PM - 10:20 PM	45.6	52.0	42.5
10:20 PM - 10:25 PM	47.9	60.9	41.9
10:25 PM - 10:30 PM	50.0	62.6	44.0
10:30 PM - 10:35 PM	43.2	52.6	40.9
10:35 PM - 10:40 PM	47.4	61.0	41.2
10:40 PM - 10:45 PM	48.7	64.8	41.0
10:45 PM - 10:50 PM	48.3	59.7	43.1
10:50 PM - 10:55 PM	42.8	51.9	41.3
10:55 PM - 11:00 PM	49.7	69.4	42.3
11:00 PM - 11:05 PM	43.0	51.4	40.7
11:05 PM - 11:10 PM	50.4	69.4	40.7
11:10 PM - 11:15 PM	44.8	60.0	41.1
11:15 PM - 11:20 PM	43.3	54.0	40.0
11:20 PM - 11:25 PM	41.9	53.1	40.1
11:25 PM - 11:30 PM	43.9	56.1	40.4
11:30 PM - 11:35 PM	52.3	59.4	42.1
11:35 PM - 11:40 PM	52.5	58.6	46.9
11:40 PM - 11:45 PM	48.2	52.2	46.5
11:45 PM - 11:50 PM	56.5	71.9	45.7
11:50 PM - 11:55 PM	59.0	73.6	43.6
11:55 PM - 12:00 AM	57.3	73.4	42.9
12:00 AM - 12:05 AM	42.6	49.8	41.3
12:05 AM - 12:10 AM	42.5	54.8	41.1
12:10 AM - 12:15 AM	45.1	60.5	40.8
12:15 AM - 12:20 AM	44.5	56.4	41.0
12:20 AM - 12:25 AM	43.6	58.9	40.1
12:25 AM - 12:30 AM	43.2	51.4	40.6
12:30 AM - 12:35 AM	47.5	55.1	44.1
12:35 AM - 12:40 AM	49.1	64.2	46.0
12:40 AM - 12:45 AM	48.4	56.1	46.7
12:45 AM - 12:50 AM	48.3	60.1	47.5
12:50 AM - 12:55 AM	48.6	51.9	48.0

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Approved by

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638431-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 2 of 3

Sample No. 2335285-2  
Parameter Noise  
Location บริเวณรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 21 - 22, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:55 AM - 01:00 AM	49.8	63.8	48.1
01:00 AM - 01:05 AM	49.0	59.8	47.6
01:05 AM - 01:10 AM	51.3	65.1	47.9
01:10 AM - 01:15 AM	50.1	62.4	47.8
01:15 AM - 01:20 AM	48.4	52.6	47.8
01:20 AM - 01:25 AM	48.4	52.2	47.7
01:25 AM - 01:30 AM	49.2	61.5	47.4
01:30 AM - 01:35 AM	50.5	65.1	47.7
01:35 AM - 01:40 AM	48.8	60.9	48.0
01:40 AM - 01:45 AM	54.2	77.4	48.5
01:45 AM - 01:50 AM	48.5	52.8	47.8
01:50 AM - 01:55 AM	51.3	63.9	48.7
01:55 AM - 02:00 AM	48.8	52.0	48.2
02:00 AM - 02:05 AM	48.8	52.4	48.2
02:05 AM - 02:10 AM	50.0	62.3	48.0
02:10 AM - 02:15 AM	49.1	55.1	48.5
02:15 AM - 02:20 AM	48.8	52.4	48.4
02:20 AM - 02:25 AM	51.3	61.2	48.7
02:25 AM - 02:30 AM	53.5	68.5	48.6
02:30 AM - 02:35 AM	51.8	68.6	47.6
02:35 AM - 02:40 AM	49.1	62.1	47.5
02:40 AM - 02:45 AM	48.2	52.8	47.6
02:45 AM - 02:50 AM	48.4	53.3	47.4
02:50 AM - 02:55 AM	50.0	62.7	47.9
02:55 AM - 03:00 AM	48.9	53.1	48.4
03:00 AM - 03:05 AM	48.7	53.5	48.0
03:05 AM - 03:10 AM	49.3	60.5	47.7
03:10 AM - 03:15 AM	49.3	52.7	48.0
03:15 AM - 03:20 AM	48.5	52.6	47.8
03:20 AM - 03:25 AM	48.7	59.7	47.1
03:25 AM - 03:30 AM	48.1	65.3	47.1
03:30 AM - 03:35 AM	49.7	65.6	46.9
03:35 AM - 03:40 AM	47.7	52.0	47.0
03:40 AM - 03:45 AM	48.0	52.6	47.1
03:45 AM - 03:50 AM	48.9	61.9	47.4
03:50 AM - 03:55 AM	50.7	65.9	47.5
03:55 AM - 04:00 AM	48.5	53.2	47.8
04:00 AM - 04:05 AM	48.5	52.7	47.7
04:05 AM - 04:10 AM	48.4	53.1	47.6
04:10 AM - 04:15 AM	49.2	61.8	47.3

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Approved by

*Kanok Korn Anek*

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638431-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 3 of 3

Sample No. 2335285-2  
Parameter Noise  
Location บริเวณรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 21 - 22, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:15 AM - 04:20 AM	49.5	64.7	47.6
04:20 AM - 04:25 AM	55.1	73.2	47.2
04:25 AM - 04:30 AM	53.3	68.9	47.5
04:30 AM - 04:35 AM	51.6	67.5	48.1
04:35 AM - 04:40 AM	52.0	67.8	48.2
04:40 AM - 04:45 AM	48.9	54.6	48.2
04:45 AM - 04:50 AM	49.7	54.5	48.4
04:50 AM - 04:55 AM	51.6	67.1	48.2
04:55 AM - 05:00 AM	49.3	55.6	48.3
05:00 AM - 05:05 AM	49.9	60.0	48.3
05:05 AM - 05:10 AM	54.1	68.0	48.0
05:10 AM - 05:15 AM	49.3	54.4	47.9
05:15 AM - 05:20 AM	50.7	65.3	48.1
05:20 AM - 05:25 AM	49.5	54.4	48.2
05:25 AM - 05:30 AM	51.1	61.1	49.0
05:30 AM - 05:35 AM	53.9	68.0	48.9
05:35 AM - 05:40 AM	53.3	69.2	49.6
05:40 AM - 05:45 AM	55.1	66.0	50.2
05:45 AM - 05:50 AM	53.2	64.0	50.7
05:50 AM - 05:55 AM	55.1	66.0	51.2
05:55 AM - 06:00 AM	53.0	63.1	51.6
06:00 AM - 07:00 AM	56.9	84.0	49.9
07:00 AM - 08:00 AM	58.3	80.8	51.2

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

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Approved by

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638432-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 1 of 3

Sample No. 2335285-3  
Parameter Noise  
Location บริเวณเริ่มรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 22 - 23, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
05:00 PM - 06:00 PM	55.9	77.8	46.4
06:00 PM - 07:00 PM	58.4	87.8	48.6
07:00 PM - 08:00 PM	52.8	77.8	44.0
08:00 PM - 09:00 PM	51.8	69.6	44.1
09:00 PM - 10:00 PM	50.9	80.0	43.8
10:00 PM - 10:05 PM	51.0	62.5	45.0
10:05 PM - 10:10 PM	49.1	64.9	43.7
10:10 PM - 10:15 PM	51.0	65.1	44.1
10:15 PM - 10:20 PM	50.0	58.5	45.6
10:20 PM - 10:25 PM	46.7	56.6	43.3
10:25 PM - 10:30 PM	46.8	61.3	42.6
10:30 PM - 10:35 PM	44.9	52.4	43.5
10:35 PM - 10:40 PM	43.5	52.7	42.2
10:40 PM - 10:45 PM	43.1	49.9	41.8
10:45 PM - 10:50 PM	55.7	76.5	42.2
10:50 PM - 10:55 PM	43.5	49.6	42.3
10:55 PM - 11:00 PM	44.9	59.0	42.3
11:00 PM - 11:05 PM	47.8	70.2	43.4
11:05 PM - 11:10 PM	50.0	67.9	42.2
11:10 PM - 11:15 PM	42.3	49.3	41.2
11:15 PM - 11:20 PM	45.2	59.7	42.4
11:20 PM - 11:25 PM	47.2	60.4	42.8
11:25 PM - 11:30 PM	45.4	57.6	42.5
11:30 PM - 11:35 PM	47.9	60.2	44.3
11:35 PM - 11:40 PM	47.5	53.3	46.7
11:40 PM - 11:45 PM	59.3	73.2	47.6
11:45 PM - 11:50 PM	58.8	73.5	47.8
11:50 PM - 11:55 PM	56.3	71.4	48.7
11:55 PM - 12:00 AM	49.0	53.4	48.6
12:00 AM - 12:05 AM	53.0	70.3	48.9
12:05 AM - 12:10 AM	49.4	54.6	48.9
12:10 AM - 12:15 AM	49.6	55.4	49.1
12:15 AM - 12:20 AM	50.0	54.9	49.1
12:20 AM - 12:25 AM	50.3	62.7	49.3
12:25 AM - 12:30 AM	50.7	61.5	47.9
12:30 AM - 12:35 AM	48.8	54.6	48.1
12:35 AM - 12:40 AM	49.0	53.2	48.2
12:40 AM - 12:45 AM	49.0	52.6	48.6
12:45 AM - 12:50 AM	49.5	60.0	48.4
12:50 AM - 12:55 AM	56.2	73.0	48.2

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Approved by

Kanokkorn Anek  
Senior Manager





## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638432-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 2 of 3

Sample No. 2335285-3  
Parameter Noise  
Location บริเวณรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 22 - 23, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:55 AM - 01:00 AM	59.0	75.5	48.3
01:00 AM - 01:05 AM	48.8	52.1	48.4
01:05 AM - 01:10 AM	48.7	52.7	48.2
01:10 AM - 01:15 AM	48.5	54.6	48.0
01:15 AM - 01:20 AM	49.5	59.5	48.2
01:20 AM - 01:25 AM	49.3	53.2	48.6
01:25 AM - 01:30 AM	48.8	53.1	48.4
01:30 AM - 01:35 AM	49.5	59.1	48.6
01:35 AM - 01:40 AM	49.1	52.7	48.6
01:40 AM - 01:45 AM	49.3	62.4	48.7
01:45 AM - 01:50 AM	49.0	53.8	48.4
01:50 AM - 01:55 AM	48.8	53.6	48.2
01:55 AM - 02:00 AM	49.3	54.6	48.6
02:00 AM - 02:05 AM	49.3	56.3	48.6
02:05 AM - 02:10 AM	49.4	53.3	48.8
02:10 AM - 02:15 AM	50.2	59.9	49.0
02:15 AM - 02:20 AM	49.8	59.6	48.8
02:20 AM - 02:25 AM	48.3	53.8	47.7
02:25 AM - 02:30 AM	48.2	52.7	47.6
02:30 AM - 02:35 AM	48.1	52.9	47.5
02:35 AM - 02:40 AM	49.5	63.8	47.4
02:40 AM - 02:45 AM	47.9	54.3	47.2
02:45 AM - 02:50 AM	47.7	52.1	47.2
02:50 AM - 02:55 AM	48.6	52.3	48.0
02:55 AM - 03:00 AM	49.0	55.0	48.1
03:00 AM - 03:05 AM	55.1	75.6	48.4
03:05 AM - 03:10 AM	52.9	76.9	48.3
03:10 AM - 03:15 AM	48.9	53.3	48.2
03:15 AM - 03:20 AM	48.9	53.5	48.3
03:20 AM - 03:25 AM	48.9	54.8	48.2
03:25 AM - 03:30 AM	48.5	56.2	47.9
03:30 AM - 03:35 AM	48.8	53.8	48.2
03:35 AM - 03:40 AM	48.8	54.1	48.2
03:40 AM - 03:45 AM	59.4	74.9	48.3
03:45 AM - 03:50 AM	56.6	75.3	48.5
03:50 AM - 03:55 AM	55.8	69.7	48.6
03:55 AM - 04:00 AM	49.1	52.8	48.5
04:00 AM - 04:05 AM	49.2	56.4	48.4
04:05 AM - 04:10 AM	49.0	55.3	48.3
04:10 AM - 04:15 AM	50.2	61.8	48.7

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Approved by

Kanokkorn Anek  
Senior Manager



## Analysis / Test Report

TESTING  
No.0009

Client : PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

Lot ID: 2335285  
Date Received : Apr 24, 2023  
Date Reported : May 02, 2023  
Report No. : 2638432-1

P/O : 4170008459  
Project Name :  
Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

Page 3 of 3

Sample No. 2335285-3  
Parameter Noise  
Location บริเวณรั้วโครงการด้านที่อยู่ใกล้เคียงบ้านพักอาศัยริม ทล. 4079 (GPS 47P 540146, 1014497) (Shut down)  
Measurement Date Apr 22 - 23, 2023  
Measurement by Yongsil Rangsee  
Sound Level Meter 00472131

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:15 AM - 04:20 AM	49.6	53.8	49.0
04:20 AM - 04:25 AM	50.7	61.3	48.9
04:25 AM - 04:30 AM	54.7	69.0	47.2
04:30 AM - 04:35 AM	47.7	54.6	47.0
04:35 AM - 04:40 AM	50.5	68.7	47.4
04:40 AM - 04:45 AM	52.1	67.3	48.3
04:45 AM - 04:50 AM	52.0	67.5	47.8
04:50 AM - 04:55 AM	50.3	67.2	47.1
04:55 AM - 05:00 AM	48.4	53.3	47.6
05:00 AM - 05:05 AM	48.7	52.7	48.0
05:05 AM - 05:10 AM	48.4	53.0	47.7
05:10 AM - 05:15 AM	50.6	55.8	48.7
05:15 AM - 05:20 AM	54.0	69.6	48.3
05:20 AM - 05:25 AM	54.7	67.5	48.4
05:25 AM - 05:30 AM	50.1	57.9	48.4
05:30 AM - 05:35 AM	49.7	55.3	48.1
05:35 AM - 05:40 AM	52.0	63.2	48.7
05:40 AM - 05:45 AM	54.5	64.8	50.4
05:45 AM - 05:50 AM	53.9	65.0	50.9
05:50 AM - 05:55 AM	53.4	68.5	50.7
05:55 AM - 06:00 AM	60.9	80.8	50.4
06:00 AM - 07:00 AM	56.9	79.8	50.0
07:00 AM - 08:00 AM	54.3	77.3	49.4

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

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Approved by

Kanokkorn Anek  
Senior Manager



บริษัท ปตท. น้ำมันและการค้าปลีก จำกัด (มหาชน)

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการทำเทียบเรือขนถ่ายน้ำมันและก๊าซปิโตรเลียมเหลวสุราษฎร์ธานี แห่งที่ 2

ระหว่างเดือนมกราคมถึงมิถุนายน พ.ศ. 2566

ทรัพยากรทางชีวภาพ



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : PTT Oil and Retail Business Public Company Limited

Address : 555 Ardnarong Rd., Klongtoey, Klongtoey, Bangkok, 10260

Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

รายงานผลการวิเคราะห์แพลงก์ตอนพืช

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
<b>Division Cyanophyta</b>			
<b>Class Cyanophyceae</b>			
<b>Order Chroococcales</b>			
<b>Family Chroococcaceae</b>			
1. <i>Merismopedia convoluta</i>	38,000	78,000	561,000
<b>Order Nostocales</b>			
<b>Family Oscillatoriaceae</b>			
2. <i>Lyngbya</i> sp.	67,000	29,000	56,000
3. <i>Oscillatoria princeps</i>	10,000	-	9,000
4. <i>Oscillatoria</i> sp.	191,000	485,000	178,000
5. <i>Oscillatoria tenuis</i>	-	-	9,000
<b>Family Nostocaceae</b>			
6. <i>Cylindrospermum</i> sp.	105,000	49,000	28,000

**ตาราง ผลการวิเคราะห์แฟลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแฟลงก์ตอนพืช	ปริมาณแฟลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
<b>Division Chlorophyta</b>			
<b>Class Chlorophyceae</b>			
<b>Order Volvocales</b>			
<b>Family Volvocaceae</b>			
7. <i>Eudorina elegans</i>	67,000	10,000	9,000
<b>Family Hydrodictyaceae</b>			
8. <i>Pediastrum duplex</i>	10,000	10,000	-
9. <i>Pediastrum simplex</i>	344,000	155,000	430,000
10. <i>Pediastrum tetras</i>	-	-	9,000
<b>Family Coelastraceae</b>			
11. <i>Coelastrum microporum</i>	38,000	-	122,000
<b>Family Oocystaceae</b>			
12. <i>Dictyosphaerium pulchellum</i>	29,000	29,000	28,000
13. <i>Oocystis elliptica</i>	19,000	-	-
14. <i>Schroederia setigera</i>	10,000	-	-
<b>Family Scenedesmaceae</b>			
15. <i>Actinastrum hantzschii</i>	191,000	10,000	9,000
16. <i>Crucigenia apiculata</i>	-	-	-
17. <i>Scenedesmus armatus</i>	38,000	-	-
18. <i>Scenedesmus acuminatus</i>	19,000	-	-
19. <i>Scenedesmus opoliensis</i>	29,000	-	65,000
<b>Order Zygomatales</b>			
<b>Family Desmidiaceae</b>			
20. <i>Staurostrum</i> sp.	48,000	29,000	-

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
<b>Class Euglenophyceae</b>			
<b>Order Euglenales</b>			
<b>Family Euglenaceae</b>			
21. <i>Trachelomonas hispida</i>	-	10,000	-
<b>Division Chromophyta</b>			
<b>Class Bacillariophyceae</b>			
<b>Order Biddulphiales</b>			
<b>Suborder Coscinodiscineae</b>			
<b>Family Thalassiosiraceae</b>			
22. <i>Cyclotella meneghiniana</i>	1,815,000	1,746,000	2,338,000
23. <i>Skeletonema costatum</i>	29,000	-	-
24. <i>Thalassiosira eccentrica</i>	334,000	873,000	842,000
<b>Family Aulacoseiraceae</b>			
25. <i>Aulacoseira granulata</i>	3,056,000	2,328,000	1,964,000
<b>Family Coscinodiscaceae</b>			
26. <i>Coscinodiscus granii</i>	-	29,000	150,000
27. <i>Coscinodiscus radiatus</i>	29,000	-	-
28. <i>Coscinodiscus</i> sp.	-	29,000	37,000
<b>Family Heliopeltaceae</b>			
29. <i>Actinoptychus senarias</i>	-	58,000	-
<b>Suborder Rhizosoleniineae</b>			
<b>Family Rhizosoleniaceae</b>			
30. <i>Rhizosolenia setigera</i>	-	-	19,000
<b>Suborder Biddulphiineae</b>			
<b>Family Chaetoceraceae</b>			
31. <i>Chaetoceros affinis</i>	-	10,000	19,000
32. <i>Chaetoceros curvisetus</i>	239,000	776,000	94,000

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
33. <i>Chaetoceros laciniosus</i>	67,000	39,000	-
34. <i>Chaetoceros lorenzianus</i>	-	-	28,000
35. <i>Chaetoceros mitra</i>	57,000	-	-
36. <i>Chaetoceros pseudocurvisetus</i>	-	68,000	234,000
37. <i>Chaetoceros</i> sp.	-	107,000	-
<b>Family Eupodiscaceae</b>			
38. <i>Odontella sisensis</i>	115,000	582,000	103,000
<b>Order Bacillariales</b>			
<b>Suborder Fragilariineae</b>			
<b>Family Fragilariaceae</b>			
39. <i>Fragilaria capucina</i>	239,000	116,000	215,000
40. <i>Synedra rumpens</i>	10,000	-	-
41. <i>Synedra ulna</i>	153,000	-	-
<b>Family Licmophoriaceae</b>			
42. <i>Licmophora abbreviata</i>	-	-	9,000
<b>Suborder Bacillariineae</b>			
<b>Family Eunotiaceae</b>			
43. <i>Eunotia pectinalis</i>	10,000	-	-
<b>Family Achnanthaceae</b>			
44. <i>Cocconeis scutellum</i>	-	-	9,000
<b>Family Cymbellaceae</b>			
45. <i>Cymbella</i> sp.	-	10,000	-
<b>Family Lyrellaceae</b>			
46. <i>Lyrella lyra</i>	-	10,000	-
<b>Family Naviculaceae</b>			
47. <i>Gyrosigma attenuatum</i>	115,000	68,000	-
48. <i>Gyrosigma distortum</i>	48,000	136,000	140,000



**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
49. <i>Gyrosigma scalpoides</i>	29,000	10,000	9,000
50. <i>Gyrosigma</i> sp.	38,000	-	47,000
51. <i>Navicula cuspidata</i>	10,000	39,000	-
52. <i>Navicula lanceolata</i>	10,000	10,000	9,000
53. <i>Pinnularia gibba</i>	29,000	10,000	-
54. <i>Pinnularia microstauron</i>	19,000	-	-
55. <i>Pleurosigma angulatum</i>	10,000	-	-
56. <i>Pleurosigma elongatum</i>	29,000	-	19,000
<b>Family Bacillariaceae</b>			
57. <i>Bacillaria paxillifer</i>	-	68,000	-
58. <i>Cylindrotheca closterium</i>	86,000	39,000	103,000
59. <i>Nitzschia lorenziana</i>	76,000	39,000	28,000
60. <i>Nitzschia sigma</i>	-	10,000	-
61. <i>Nitzschia sigmoidea</i>	-	10,000	84,000
62. <i>Nitzschia</i> sp.	153,000	68,000	-
63. <i>Tryblionella hungarica</i>	229,000	29,000	75,000
64. <i>Tryblionella victoriae</i>	-	29,000	-
<b>Family Rhopalodiaceae</b>			
65. <i>Epithemia argus</i>	-	-	9,000
<b>Family Surirellaceae</b>			
66. <i>Entomoneis alata</i>	-	19,000	-
67. <i>Entomoneis robusta</i>	-	-	19,000
68. <i>Surirella linearis</i>	29,000	-	-
69. <i>Surirella ovata</i>	306,000	58,000	112,000
70. <i>Surirella robusta</i>	48,000	146,000	-

**ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
Class Dinophyceae			
Order Peridiniales			
Family Protoperidiniaceae			
71. <i>Protoperidinium</i> sp.	220,000	-	122,000
ชนิดแพลงก์ตอนพืช	48	43	40
ปริมาณแพลงก์ตอนพืช	8,890,000	8,463,000	8,350,000
ดัชนีความหลากหลายแพลงก์ตอนพืช	2.5628	2.4467	2.4384
ดัชนีความสม่ำเสมอแพลงก์ตอนพืช	0.6620	0.6505	0.6610

**Sample Location :**

1. สถานี 2330776-1 : บริเวณแม่น้ำตาปีเหนือห่างจากท่าเทียบเรือปตท. 500 เมตร
2. สถานี 2330776-2 : บริเวณแม่น้ำตาปีด้านหน้าท่าเทียบเรือ ปตท.
3. สถานี 2330776-3 : บริเวณแม่น้ำตาปีท้ายน้ำห่างจากท่าเทียบเรือ ปตท. 500 เมตร

**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 : PTT Oil and Retail Business Public Company Limited

Address : 555 Ardnarong Rd., Klongtoey, Klongtoey, Bangkok, 10260

Project Location: คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

รายงานผลการวิเคราะห์แพลงก์ตอนสัตว์

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
<b>Phylum Protozoa</b>			
<b>Subphylum Plasmodroma</b>			
<b>Class Sarcodina</b>			
<b>Subclass Rhizopoda</b>			
<b>Order Testacida</b>			
<b>Family Arcellidae</b>			
1. <i>Arcella</i> sp.	10,000	-	-
<b>Family Euglyphidae</b>			
2. <i>Euglypha</i> sp.	19,000	-	9,000
<b>Subphylum Ciliophora</b>			
<b>Class Ciliata</b>			
<b>Subclass Holotricha</b>			
<b>Order Gymnostomatida</b>			
3. <i>Didinium</i> sp.	-	10,000	-

**ตาราง ผลการวิเคราะห์แฟลกellate (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)**

(ต่อ)

ชนิดแฟลกellate	ปริมาณแฟลกellate (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
<b>Subclass Spirotricha</b> <b>Order Tintinnida</b> <b>Family Codonellidae</b> 4. <i>Tintinnopsis fimbriata</i> 5. <i>Tintinnopsis gracilis</i> 6. <i>Tintinnopsis karajacensis</i> 7. <i>Tintinnopsis tocaninensis</i> <b>Subclass Peritricha</b> <b>Order Peritrichida</b> 8. <i>Pyxicula</i> sp. 9. <i>Vorticella</i> sp.	48,000 - 29,000 -	126,000 - 29,000 - 19,000 -	94,000 19,000 9,000 19,000
<b>Phylum Rotifera</b> <b>Class Monogononta</b> <b>Order Ploima</b> <b>Family Brachionidae</b> 10. <i>Anuraeopsis fissa</i> 11. <i>Brachionus plicatilis</i> <b>Order Flosculariacea</b> <b>Family Testudinellidae</b> 12. <i>Testudinella patina</i>	- - 10,000	- 10,000 -	9,000 19,000 -
<b>Phylum Arthropoda</b> <b>Class Crustacea</b> <b>Subclass Copepoda</b> 13. Copepod nauplius	29,000	10,000	37,000
<b>Phylum Mollusca</b> <b>Class Bivalvia</b> 14. Pelecypod larvae	-	-	9,000

ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	2330776-1	2330776-2	2330776-3
ชนิดแพลงก์ตอนสัตว์	6	6	11
ปริมาณแพลงก์ตอนสัตว์	145,000	204,000	252,000
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	1.6449	1.2395	2.0242
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.9180	0.6918	0.8442

**Sample Location :**

1. สถานี 2330776-1 : บริเวณแม่น้ำตาปีเหนือ น้ำห่างจากท่าเทียบเรือปตท. 500 เมตร
2. สถานี 2330776-2 : บริเวณแม่น้ำตาปีด้านหน้าท่าเทียบเรือ ปตท.
3. สถานี 2330776-3 : บริเวณแม่น้ำตาปีท้ายน้ำ ห่างจากท่าเทียบเรือ ปตท. 500 เมตร

**Condition of Sample :** contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)



(นางสาวกนกวรรณ ขวต่อน)  
ผู้วิเคราะห์



(นายอลงกต อินทรชาติ)  
หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ.ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : PTT Oil and Retail Business Public Company Limited

Address : 555 Ardnarong Rd., Klongtoey, Klongtoey, Bangkok, 10260

Project Location : คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

### รายงานผลการวิเคราะห์ผลผลิตเบื้องต้น (Primary productivity)

ค่า Primary productivity (ผลผลิตเบื้องต้น) จะบอกถึงความอุดมสมบูรณ์ของแหล่งน้ำ แหล่งน้ำใดที่มีค่า Primary productivity สูงก็就会有ความอุดมสมบูรณ์มาก ในทางกลับกันแหล่งน้ำใดที่มีค่า Primary productivity ต่ำก็就会有ความอุดมสมบูรณ์น้อย ซึ่งค่า Primary productivity มักจะมีความสัมพันธ์กับปริมาณแพลงก์ตอนพืชและแพลงก์ตอนสัตว์ในน้ำ และในการศึกษาเกี่ยวกับค่า Primary productivity จะมีส่วนที่ทำการศึกษาคือ 3 ส่วน คือ

ค่า Gross production เป็นค่าที่บอกถึงความสามารถในการผลิตของผู้ผลิตขั้นปฐมในแหล่งน้ำ ซึ่งก็คือแพลงก์ตอนพืช ในกระบวนการสังเคราะห์แสง ในกระบวนการดังกล่าวสามารถวัดได้โดยการวัดออกมาในรูปของปริมาณออกซิเจนที่เพิ่มขึ้นหรือปริมาณคาร์บอนไดออกไซด์ที่ใช้ไป แต่ในการคำนวณขั้นสุดท้ายมักจะคำนวณออกมาในรูปของคาร์บอน (C) ซึ่งเป็นสารอินทรีย์ที่เกิดขึ้นในกระบวนการผลิต โดยจะแสดงในรูปของ  $\text{mgC}/\text{m}^3/\text{hr}$

ค่า Respiration จะบอกถึงการใช้ออกซิเจนของแพลงก์ตอนพืช และแพลงก์ตอนสัตว์ที่อยู่ในน้ำ รวมทั้งขบวนการย่อยสลายสารอินทรีย์ที่มีอยู่ในน้ำโดยแบคทีเรีย

ค่า Net production หรือผลผลิตเบื้องต้นสุทธิ จะบอกถึงความสามารถในการรองรับกิจกรรมในการใช้ออกซิเจนของแหล่งน้ำนั้นๆ เช่น การเพาะเลี้ยงสัตว์น้ำหรือเป็นแหล่งที่อยู่อาศัยให้กับสัตว์น้ำขนาดใหญ่อื่นๆ ถ้าค่า Net production มีค่าเป็นลบ แสดงว่าความสามารถในการผลิตของแพลงก์ตอนพืชน้อยกว่าการใช้ออกซิเจนของแพลงก์ตอนพืช แพลงก์ตอนสัตว์ที่อยู่ในน้ำและการย่อยสลายสารอินทรีย์ที่มีอยู่ในน้ำโดยแบคทีเรีย ซึ่งแสดงถึงความอุดมสมบูรณ์ของแพลงก์ตอนพืชในแหล่งน้ำบริเวณนั้นต่ำ หรือมีปริมาณแพลงก์ตอนพืชหรือการย่อยสลายสารอินทรีย์มาก แต่ค่าปริมาณออกซิเจนที่ละลายในน้ำที่วัดได้ในแหล่งน้ำนั้นอาจมาจากกระบวนการทางกายภาพ ได้แก่ กระแสน้ำและกระแสลม

**ตาราง ผลการวิเคราะห์ผลผลิตเบื้องต้น บริเวณคลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2**  
(เก็บตัวอย่างเมื่อวันที่ 9 พฤษภาคม 2566)

Station	Gross production (mgC/m <sup>3</sup> /hr)	Respiration (mgC/m <sup>3</sup> /hr)	Net production (mgC/m <sup>3</sup> /hr)
<b>Lot 2330777-1</b> บริเวณแม่น้ำตาปีเหนือห่างจากท่าเทียบเรือปตท. 500 เมตร	191.57	32.84	164.20
<b>Lot 2330777-2</b> บริเวณแม่น้ำตาปีด้านหน้าท่าเทียบเรือปตท.	164.20	56.87	116.81
<b>Lot 2330777-3</b> บริเวณแม่น้ำตาปีท้ายน้ำห่างจากท่าเทียบเรือปตท. 500 เมตร	156.38	65.68	101.65

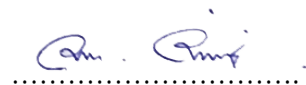
**Condition of Sample :** contained in incubation bottles; S1 –3 bottles, S2 – 6 bottles, S3 – 6 bottles,

จากการวิเคราะห์ค่าผลผลิตเบื้องต้นบริเวณคลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2 เก็บตัวอย่างมาเมื่อวันที่ 9 พฤษภาคม 2566 ซึ่งค่าผลผลิตเบื้องต้นแสดงในรูปค่าของ Gross production โดยมีค่าอยู่ระหว่าง 156.38-191.57 mgC/m<sup>3</sup>/hr ดังแสดงไว้ในตาราง สถานีที่มีผลผลิตเบื้องต้นมากที่สุด คือ สถานี Lot 2330777-1 (บริเวณแม่น้ำตาปีเหนือห่างจากท่าเทียบเรือปตท. 500 เมตร) ซึ่งมีค่าผลผลิตเบื้องต้น 191.57 mgC/m<sup>3</sup>/hr ส่วนสถานีที่มีผลผลิตเบื้องต้นน้อยที่สุด คือ สถานี Lot 2330777-3 (บริเวณแม่น้ำตาปีท้ายน้ำห่างจากท่าเทียบเรือปตท. 500 เมตร) ซึ่งมีค่าผลผลิตเบื้องต้น 156.38 mgC/m<sup>3</sup>/hr ซึ่งปัจจัยที่มีผลต่อการเพิ่มขึ้นหรือลดลงของผลผลิตเบื้องต้นนี้ ได้แก่ ปริมาณของแพลงก์ตอนพืช แพลงก์ตอนสัตว์ อุณหภูมิ และปริมาณแสง ซึ่งจะมีผลต่อกระบวนการสังเคราะห์แสงของแพลงก์ตอนพืชในน้ำนั่นเอง



(นางสาวกนกวรรณ ขวาค่อน)

ผู้วิเคราะห์



(นายอลงกต อินทรชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา





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

Client : PTT Oil and Retail Business Public Company Limited

Address : 555 Ardnarong Rd., Klongtoey, Klongtoey, Bangkok, 10260

Project Location: คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่ 2

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)		
	2330779-1	2330779-2	2330779-3
<b>Phylum Annelida</b>			
<b>Class Polychaeta</b>			
<b>Order Capitellida</b>			
<b>Family Capitellidae</b>			
<i>Heteromastus</i> sp. (ไส้เดือนทะเล)	-	15	-
<b>Order Eunicida</b>			
<b>Family Eunicidae</b>			
<i>Marphysa</i> sp. (ไส้เดือนทะเล)	-	30	-
<b>Order Orbiniida</b>			
<b>Family Orbiniidae</b>			
<i>Scoloplos</i> sp. (ไส้เดือนทะเล)	-	30	-
<b>Order Phyllodocida</b>			
<b>Family Nephtyidae</b>			
<i>Nephtys</i> sp. (ไส้เดือนทะเล)	15	-	45

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 9 พฤษภาคม 2566)

(ต่อ)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)		
	2330779-1	2330779-2	2330779-3
<b>Phylum Arthropoda</b> <b>Class Malacostraca</b> <b>Order Amphipoda</b> <b>Family Ampeliscidae</b> <i>Ampelisca</i> sp. (แอมพีพอด) <b>Order Decapoda</b> <b>Family Diogenidae</b> <i>Diogenes</i> sp. (ปูเสฉวน) <b>Family Penaeidae</b> <i>Metapenaeus</i> sp. (กุ้งชนิดหนึ่ง)	-	-	15
<b>Phylum Mollusca</b> <b>Class Gastropoda</b> <b>Order Caenogastropoda</b> <b>Family Thiariidae</b> <i>Sermyla</i> sp. (หอยเจดีย์) <b>Class Bivalvia</b> <b>Order Cardiida</b> <b>Family Tellinidae</b> <i>Tellina</i> sp. (หอยสองฝาชนิดหนึ่ง)	60	-	-
ชนิดสัตว์หน้าดิน	3	4	3
ปริมาณสัตว์หน้าดิน	90	105	75
ค่าดัชนีความหลากหลายสัตว์หน้าดิน	0.8676	1.3518	0.9503

**Sample Location :** 1. สถานี 2330779-1 : บริเวณแม่น้ำตาปีเหนือ น้ำห่างจากท่าเทียบเรือ ปตท. 500 เมตร  
 2. สถานี 2330779-2 : บริเวณแม่น้ำตาปีด้านหน้าท่าเทียบเรือ ปตท.  
 3. สถานี 2330779-3 : บริเวณแม่น้ำตาปีท้ายน้ำห่างจากท่าเทียบเรือ ปตท. 500 เมตร

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

อรุณ วัฒนวงศ์

(นายอรุณ วัฒนวงศ์)

ผู้วิเคราะห์

อ. อ. อ.

(นายอลงกต อินทชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา



บริษัท ปตท. น้ำมันและการค้าปลีก จำกัด (มหาชน)

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการทำเทียบเรือขนถ่ายน้ำมันและก๊าซปิโตรเลียมเหลวสุราษฎร์ธานี แห่งที่ 2

ระหว่างเดือนมกราคมถึงมิถุนายน พ.ศ. 2566

คุณภาพน้ำน้ำผิวดิน



## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 1 of 6

<b>Sample Number</b>	2330775-1						
<b>Sampled Date</b>	May 09, 2023 1:00 PM						
<b>Sample Description</b>	น้ำผิวดิน						
<b>Location</b>	บริเวณแม่น้ำตาปีเหนือห่างจากท่าเทียบเรือ ปตท. 500 เมตร						
<b>Date Analysis Commenced</b>	May 10, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle, two BOD bottles 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>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	3300.0	≤4000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Songkhla
Total Coliform	MPN/100mL	-	-	7900.0	≤20000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Songkhla
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2.0	<2.0	≤2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
Dissolved Oxygen *	mg/L	-	0.1	5.5	≥4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Songkhla
Oil & Grease	mg/L	-	3	4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C		-	-	7.4	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	6190	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	48	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**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 3)

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

n : Not Change from natural condition

Approved by

Ananta B.

Ananta Boonphet  
Scientist (2)

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

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 2 of 6

**Sampling By :** Panya Kiartputtirak , Yuttapong Rattana

Remark :

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

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 3 of 6

<b>Sample Number</b>	2330775-2						
<b>Sampled Date</b>	May 09, 2023 1:10 PM						
<b>Sample Description</b>	น้ำผิวดิน						
<b>Location</b>	บริเวณแม่น้ำตาปีด้านหน้าท่าเทียบเรือ ปตท.						
<b>Date Analysis Commenced</b>	May 10, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle, two BOD bottles 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>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	3300.0	≤4000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Songkhla
Total Coliform	MPN/100mL	-	-	24000.0	≤20000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Songkhla
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2.0	<2.0	≤2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
Dissolved Oxygen *	mg/L	-	0.1	5.4	≥4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Songkhla
Oil & Grease	mg/L	-	3	4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C		-	-	7.4	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	6850	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	46	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**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 3)

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

n : Not Change from natural condition

Approved by

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Ananta Boonphet  
Scientist (2)

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 4 of 6

**Sampling By :** Panya Kiartputtirak , Yuttapong Rattana

Remark :

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 5 of 6

<b>Sample Number</b>	2330775-3						
<b>Sampled Date</b>	May 09, 2023 1:20 PM						
<b>Sample Description</b>	น้ำผิวดิน						
<b>Location</b>	บริเวณแม่น้ำตาปีห่างจากท่าเทียบเรือ ปตท. 500 เมตร						
<b>Date Analysis Commenced</b>	May 10, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle, two BOD bottles 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>Microbiological Testing</b>							
Fecal Coliform	MPN/100mL	-	-	3300.0	≤4000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Songkhla
Total Coliform	MPN/100mL	-	-	7900.0	≤20000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Songkhla
<b>Water Testing</b>							
BOD (5 days at 20 degree C) *	mg/L	-	2.0	<2.0	≤2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
Dissolved Oxygen *	mg/L	-	0.1	5.3	≥4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Songkhla
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C		-	-	7.4	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	6950	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	41	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**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 3)

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n : Not Change from natural condition

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Scientist (2)

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
555, Ardnarong Rd., Klongtoey, Klongtoey, Bangkok Thailand 10260

**P/O :** 4170008459

**Project Name :**

**Project Location:** คลังปิโตรเลียมสุราษฎร์ธานี แห่งที่2

**Lot ID: 2330775**

Date Received : May 10, 2023

Date Reported : May 18, 2023

Report Number : 2598144-1

Page 6 of 6

**Sampling By :** Panya Kiartputtirak , Yuttapong Rattana

Remark :

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- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
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บริษัท ปตท. น้ำมันและการค้าปลีก จำกัด (มหาชน)

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการทำเทียบเรือขนถ่ายน้ำมันและก๊าซปิโตรเลียมเหลวสุราษฎร์ธานี แห่งที่ 2

ระหว่างเดือนมกราคมถึงมิถุนายน พ.ศ. 2566

คุณภาพน้ำทิ้ง



## Analysis / Test Report

TESTING  
No.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552990-1

Page 1 of 1

<b>Sample Number</b>	235250-1
<b>Sampled Date</b>	Jan 19, 2023 2:40 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	29.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	48	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Sutthirak T.*

Sutthirak Tiprat  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-7299

Approved by

*Kanitta H.*

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552990-2

Page 1 of 1

<b>Sample Number</b>	235250-1
<b>Sampled Date</b>	Jan 19, 2023 2:40 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 23, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552991-1

Page 1 of 1

<b>Sample Number</b>	235250-2
<b>Sampled Date</b>	Jan 19, 2023 2:50 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	29.7	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	168	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Sutthirak T.*

Sutthirak Tiprat  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-7299

Approved by

*Kanitta H.*

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552991-2

Page 1 of 1

<b>Sample Number</b>	235250-2
<b>Sampled Date</b>	Jan 19, 2023 2:50 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 23, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552992-1

Page 1 of 1

<b>Sample Number</b>	235250-3
<b>Sampled Date</b>	Jan 19, 2023 3:00 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	29.0	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	52	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	8	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

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

Technical Management

*Sutthirak T.*

Sutthirak Tiprat  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-7299

Approved by

*Kanitta H.*

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 235250**

Date Received : Jan 20, 2023

Date Reported : Jan 26, 2023

Report Number : 2552992-2

Page 1 of 1

<b>Sample Number</b>	235250-3
<b>Sampled Date</b>	Jan 19, 2023 3:00 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jan 23, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576824-1

Page 1 of 1

<b>Sample Number</b>	236386-1
<b>Sampled Date</b>	Feb 16, 2023 10:30 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 17, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	16	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet  
Scientist (2)

Approved by

Kanitta H.

Kanitta Hemprasatporn  
Section Head  
ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576824-2

Page 1 of 1

<b>Sample Number</b>	236386-1
<b>Sampled Date</b>	Feb 16, 2023 10:30 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำบ่อแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Nant Somb*

Nanthawadee Somboon

Specialist 1

ทะเบียนเลขที่ ว-204-จ-4716

Approved by

*Kanok Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576825-1

Page 1 of 1

<b>Sample Number</b>	236386-2
<b>Sampled Date</b>	Feb 16, 2023 10:40 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 17, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	27.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	92	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet  
Scientist (2)

Approved by

Kanitta H.

Kanitta Hemprasatporn  
Section Head  
ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576825-2

Page 1 of 1

<b>Sample Number</b>	236386-2
<b>Sampled Date</b>	Feb 16, 2023 10:40 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำบ่อแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Nant Somb*

Nanthawadee Somboon

Specialist 1

ทะเบียนเลขที่ ว-204-จ-4716

Approved by

*Kanok Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576826-1

Page 1 of 1

<b>Sample Number</b>	236386-3
<b>Sampled Date</b>	Feb 16, 2023 10:50 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 17, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	27.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	120	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet  
Scientist (2)

Approved by

Kanitta H.

Kanitta Hemprasatporn  
Section Head  
ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 236386**

Date Received : Feb 17, 2023

Date Reported : Feb 23, 2023

Report Number : 2576826-2

Page 1 of 1

<b>Sample Number</b>	236386-3
<b>Sampled Date</b>	Feb 16, 2023 10:50 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำบ่อแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Feb 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Nant Somb*

Nanthawadee Somboon

Specialist 1

ทะเบียนเลขที่ ว-204-จ-4716

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602435-1

Page 1 of 1

<b>Sample Number</b>	2319802-1						
<b>Sampled Date</b>	Mar 16, 2023 11:00 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	น้ำบ่อแยกไข 1 (คปสร) คลังใหม่						
<b>Date Analysis Commenced</b>	Mar 17, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	32	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

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

**Technical Management**

Ananta B.

Ananta Boonphet  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

**Approved by**

Kanitta H.

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602435-2

Page 1 of 1

<b>Sample Number</b>	2319802-1						
<b>Sampled Date</b>	Mar 16, 2023 11:00 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	น้ำบ่อแยกไข 1 (คปสร) คลังใหม่						
<b>Date Analysis Commenced</b>	Mar 20, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602436-1

Page 1 of 1

<b>Sample Number</b>	2319802-2
<b>Sampled Date</b>	Mar 16, 2023 11:10 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Mar 17, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	32	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602436-2

Page 1 of 1

<b>Sample Number</b>	2319802-2						
<b>Sampled Date</b>	Mar 16, 2023 11:10 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	น้ำบ่อแยกไข 2 (คปสร) คลังใหม่						
<b>Date Analysis Commenced</b>	Mar 20, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602437-1

Page 1 of 1

<b>Sample Number</b>	2319802-3
<b>Sampled Date</b>	Mar 16, 2023 11:20 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Mar 17, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	48	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet  
Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn  
Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2319802**

Date Received : Mar 17, 2023

Date Reported : Mar 23, 2023

Report Number : 2602437-2

Page 1 of 1

<b>Sample Number</b>	2319802-3						
<b>Sampled Date</b>	Mar 16, 2023 11:20 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	น้ำบ่อแยกไข 3 (คปสร) คลังใหม่						
<b>Date Analysis Commenced</b>	Mar 20, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

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.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632702-1

Page 1 of 1

<b>Sample Number</b>	2330321-1
<b>Sampled Date</b>	Apr 19, 2023 11:00 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Apr 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	28.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	156	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632702-2

Page 1 of 1

<b>Sample Number</b>	2330321-1
<b>Sampled Date</b>	Apr 19, 2023 11:00 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Apr 21, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut

Scientist (3)

ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632703-1

Page 1 of 1

<b>Sample Number</b>	2330321-2
<b>Sampled Date</b>	Apr 19, 2023 11:10 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Apr 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	204	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Ananta B

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632703-2

Page 1 of 1

<b>Sample Number</b>	2330321-2						
<b>Sampled Date</b>	Apr 19, 2023 11:10 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	น้ำบ่อแยกไข 2 (คปสร) คลังใหม่						
<b>Date Analysis Commenced</b>	Apr 21, 2023						
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut  
Scientist (3)  
ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

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

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## Analysis / Test Report

TESTING  
No.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632704-1

Page 1 of 1

<b>Sample Number</b>	2330321-3
<b>Sampled Date</b>	Apr 19, 2023 11:20 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Apr 20, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	28.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	132	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Ananta B

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2330321**

Date Received : Apr 20, 2023

Date Reported : Apr 26, 2023

Report Number : 2632704-2

Page 1 of 1

<b>Sample Number</b>	2330321-3
<b>Sampled Date</b>	Apr 19, 2023 11:20 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Apr 21, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut  
Scientist (3)  
ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

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

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## Analysis / Test Report

TESTING

No.0009

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 1 of 6

<b>Sample Number</b>	2346921-1
<b>Sampled Date</b>	May 24, 2023 10:00 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	May 26, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	36	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH at 25 degree C *		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature *	Degree C	-	-	28.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	132	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

Technical Management

Siriluk P.

Siriluk Puengpang

Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**TESTING**

**No.0009**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 2 of 6

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- The laboratory has been accepted as an accredited laboratory complying with the 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

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 3 of 6

<b>Sample Number</b>	2346921-2
<b>Sampled Date</b>	May 24, 2023 10:20 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	May 26, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	37	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH at 25 degree C *		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature *	Degree C	-	-	27.6	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	88	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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 :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**TESTING**

**No.0009**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 4 of 6

- LOD : Limit of Detection
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- The laboratory has been accepted as an accredited laboratory complying with the 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

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 5 of 6

<b>Sample Number</b>	2346921-3
<b>Sampled Date</b>	May 24, 2023 10:40 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	May 26, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	43	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH at 25 degree C *		-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature *	Degree C	-	-	27.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	372	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

Technical Management

Siriluk P.

Siriluk Puengpang

Supervisor

ทะเบียนเลขที่ ว-204-จ-4720

Approved by

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**TESTING**

**No.0009**

**Lot ID: 2346921**

Date Received : May 25, 2023

Date Reported : May 31, 2023

Report Number : 2633794-1

Page 6 of 6

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the 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.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692801-1

Page 1 of 1

<b>Sample Number</b>	2362318-1
<b>Sampled Date</b>	Jun 14, 2023 11:00 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 15, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	112	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Ananta B.

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692801-2

Page 1 of 1

<b>Sample Number</b>	2362318-1
<b>Sampled Date</b>	Jun 14, 2023 11:00 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 1 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 16, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	Not Detected	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut  
Scientist (3)  
ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

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

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## Analysis / Test Report

TESTING  
No.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692802-1

Page 1 of 1

<b>Sample Number</b>	2362318-2
<b>Sampled Date</b>	Jun 14, 2023 10:50 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 15, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	26.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	104	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

Ananta B.

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692802-2

Page 1 of 1

<b>Sample Number</b>	2362318-2
<b>Sampled Date</b>	Jun 14, 2023 10:50 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 2 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 16, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut

Scientist (3)

ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

Kanokkorn Anek

Senior Manager

ทะเบียนเลขที่ ว-204-ค-6111

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## Analysis / Test Report

TESTING  
No.0166

**Client** : PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O** :

**Project Name** : คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location** :

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692803-1

Page 1 of 1

<b>Sample Number</b>	2362318-3
<b>Sampled Date</b>	Jun 14, 2023 11:05 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 15, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Songkhla
COD	mg/L	-	25	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Songkhla
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Songkhla
pH at 25 degree C *		-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Temperature *	Degree C	-	-	28.1	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Songkhla
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	256	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Suspended Solids	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Songkhla

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By** : Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Ananta B

Ananta Boonphet

Scientist (2)

ทะเบียนเลขที่ ว-267-จ-0004

Approved by

Kanitta H.

Kanitta Hemprasatporn

Section Head

ทะเบียนเลขที่ ว-267-ค-7296

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## Analysis / Test Report

**Client :** PTT Oil and Retail Business Public Company Limited  
13 Moo 3, Surat-Paknum Road, Bangkung, Muang Suratthani, Suratthani Thailand 84000

**P/O :**

**Project Name :** คลังน้ำมันสุราษฎร์ธานี (คลังแห่งใหม่)

**Project Location :**

**Lot ID: 2362318**

Date Received : Jun 15, 2023

Date Reported : Jun 21, 2023

Report Number : 2692803-2

Page 1 of 1

<b>Sample Number</b>	2362318-3
<b>Sampled Date</b>	Jun 14, 2023 11:05 AM
<b>Sample Description</b>	Wastewater
<b>Location</b>	น้ำมันแยกไข 3 (คปสร) คลังใหม่
<b>Date Analysis Commenced</b>	Jun 16, 2023
<b>Condition of Sample</b>	Contained in one amber glass bottle and four 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>							
Total Kjeldahl Nitrogen as N	mg/L	0.15	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

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**Sampling By :** Panya Kiartputtirak ทะเบียนเลขที่ ว-267-จ-8343 , Yuttapong Rattana ทะเบียนเลขที่ ว-204-จ-8610

Remark :

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

Technical Management

*Suwimon C.*

Suwimon Chairuangwut  
Scientist (3)  
ทะเบียนเลขที่ ว-204-จ-5417

Approved by

*Kanokkorn Anek*

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

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