

Request No. LA62-1144

Report No. 6212-0165

TEST REPORT

CUSTOMER : NPC Safety and Environmental Service Co., Ltd.
ADDRESS : 20/9 Pakornsongkrohrad Rd., T. Maptaphut A. Muangrayong, Rayong 21150
SAMPLE SOURCE : PTT Asahi Chemical Co., Ltd.
SAMPLE POINT : ERU Stack (AOG)
SAMPLING DATE : 25/11/2019 SAMPLE NO. : 05922-05923, 05925
RECEIVED DATE : 30/11/2019 SAMPLING TIME : 10:45-11:20
TESTED DATE : 30/11/2019 – 11/12/2019 REPORTED DATE : 12/12/2019


STACK DESCRIPTION

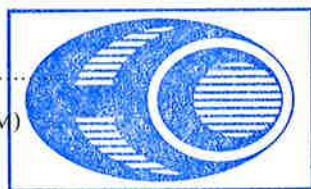
Height :	60.30 m	Type of Process :	Combustion
Diameter :	4.30 m	Type Of Fuel :	Natural Gas
Temperature :	172.00 °C	Oxygen Content :	5.38 %
Air Velocity :	18.97 m/s	Barometric Pressure :	760.00 mm.Hg
Flow rate ³ :	171.67 m ³ /s	Atmospheric Temperature :	31.00 °C
Moisture Content :	6.87 %		

PARAMETER*	TEST METHOD	TIME	RESULT ³		STD	UNIT
			5.38 % O ₂	7 % O ₂		
Particulate (TSP)	Isokinetic, Gravimetric	10:45-11:20	1.7	1.5	320 ¹ , 32 ²	mg/m ³
			0.2918	-	4.62 ²	g/s
Sulfur Dioxide (SO ₂)	Barium Thorin Titrimetric	10:45-11:15	<3.4	<3.4	157 ¹	mg/m ³
			<1.3	<1.3	60 ¹ , 28 ²	ppm
			<0.5837	-	10.57 ²	g/s
Oxides of Nitrogen (NO _x as NO ₂)	Chemical Absorption, Colorimetric	10:50-10:55	11.9	10.7	376 ¹	mg/m ³
			6.3	5.6	200 ¹ , 10 ²	ppm
			2.0429	-	2.71 ²	g/s

REMARK:

- ¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)
² LIMIT VALUES IN ENVIRONMENTAL IMPACT ASSESMENT REPORT
³ DRY BASIS (25°C, 760 mm.Hg)
* SAMPLING BY MR. TEERAPONG NAULIN

Examined By 
(MISS APIRADEE CHUEN-AROM)
(จ-003-ค-4377)
12/12/2019



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By 
(MR. THONGCHAI BOONSAK)
(จ-003-ค-5618)
12/12/2019

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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Request No. LA62-1144

Report No. 6212-0166

TEST REPORT

CUSTOMER : NPC Safety and Environmental Service Co., Ltd.
ADDRESS : 20/9 Pakornsongkrohrad Rd., T. Maptaphut A. Muangrayong, Rayong 21150
SAMPLE SOURCE : PTT Asahi Chemical Co., Ltd.
SAMPLE POINT : ERU Stack (AOG)
SAMPLING DATE : 25/11/2019 SAMPLE NO. : 05924
RECEIVED DATE : 30/11/2019 SAMPLING TIME : 11:15-11:45
TESTED DATE : 30/11/2019 – 18/12/2019 REPORTED DATE : 23/12/2019

STACK DESCRIPTION

Height :	60.30 m	Type of Process :	Combustion
Diameter :	4.30 m	Type Of Fuel :	Natural Gas
Temperature :	172.00 °C	Oxygen Content :	5.38 %
Air Velocity :	18.97 m/s	Barometric Pressure :	760.00 mm.Hg
Flow rate ¹ :	171.67 m ³ /s	Atmospheric Temperature :	31.00 °C
Moisture Content :	6.87 %		

PARAMETER	TEST METHOD	TIME	RESULT ¹		UNIT
			5.38% O ₂	7 % O ₂	
Hydrogen Cyanide ²	Spectrophotometric	11:15-11:45	0.88	0.79	mg/m ³
(HCN)			0.1511	-	g/s

REMARK:

¹ DRY BASIS (25°C, 760 mm.Hg)

² SAMPLING BY EASTERN THAI CONSULTING 1992 CO.,LTD. (MR. TEERAPONG NAULIN)
ANALYSED BY THE OFFICE OF PUBLIC HEALTH AND ENVIRONMENTAL
TECHNOLOGY SERVICES ,FACULTY OF PUBLIC HEALTH ,MAHIDOL UNIVERSITY



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By Thongchai Boonsak
(MR. THONGCHAI BOONSAK)

23/12/2019

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TEST REPORT

CUSTOMER : NPC Safety and Environmental Service Co., Ltd.
 ADDRESS : 20/9 Pakomsongkrohrad Rd., T. Maptaphut A. Muangrayong, Rayong 21150
 SAMPLE SOURCE : PTT Asahi Chemical Co., Ltd.
 SAMPLE POINT : ERU Stack (AOG)
 SAMPLING DATE : 25/11/2019 SAMPLE NO. : 05916
 RECEIVED DATE : 30/11/2019 SAMPLING TIME : 11:15-11:45
 TESTED DATE : 30/11/2019 – 18/12/2019 REPORTED DATE : 23/12/2019

STACK DESCRIPTION

Height :	60.30 m	Type of Process :	Combustion
Diameter :	4.30 m	Type Of Fuel :	Natural Gas
Temperature :	172.00 °C	Oxygen Content :	5.38 %
Air Velocity :	18.98 m/s	Barometric Pressure :	760.00 mm.Hg
Flow rate ² :	157.15 m ³ /s	Atmospheric Temperature :	31.00 °C
Moisture Content :	6.96 %		

PARAMETER	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			5.38 % O ₂	3 % O ₂		
Hydrogen Cyanide ³ (HCN)	Spectrophotometric	11:15-11:45	0.96	1.11	2.0	mg/m ³

REMARK:

- ¹ IFC, 2007. ENVIRONMENTAL, HEALTH AND SAFETY GUIDELINES FOR LARGE VOLUME PETROLEUM-BASED ORGANIC CHEMICALS MANUFACTURING
- ² DRY BASIS (0°C, 760 mm.Hg)
- ³ SAMPLING BY EASTERN THAI CONSULTING 1992 CO.,LTD. (MR. TEERAPONG NAULIN)
 ANALYSED BY THE OFFICE OF PUBLIC HEALTH AND ENVIRONMENTAL TECHNOLOGY SERVICES ,FACULTY OF PUBLIC HEALTH ,MAHIDOL UNIVERSITY



บริษัท อีสเทิร์นไทยคอนซัลต์ติ้ง 1992 จำกัด

Examined By: Thongchai Boonsak

(MR. THONGCHAI BOONSAK)

23/12/2019

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Request No. LA62-1144

Report No. 6212-0154

TEST REPORT

CUSTOMER : NPC Safety and Environmental Service Co., Ltd.
ADDRESS : 20/9 Pakornsongkrohrad Rd., T. Maptaphut A. Muangrayong, Rayong 21150
SAMPLE SOURCE : PTT Asahi Chemical Co., Ltd.
SAMPLE POINT : WWI Stack
SAMPLING DATE : 26/11/2019 SAMPLE NO. : 05907-05909
RECEIVED DATE : 30/11/2019 SAMPLING TIME : 09:40-10:40
TESTED DATE : 30/11/2019 – 11/12/2019 REPORTED DATE : 12/12/2019

STACK DESCRIPTION

Height :	60.00 m	Type of Process :	Combustion
Diameter :	1.89 m	Type Of Fuel :	Natural Gas
Temperature :	49.00 °C	Oxygen Content :	11.73 %
Air Velocity :	1.88 m/s	Barometric Pressure :	760.00 mm.Hg
Flow rate ³ :	4.67 m ³ /s	Atmospheric Temperature :	34.00 °C
Moisture Content :	4.24 %		

PARAMETER*	TEST METHOD	TIME	RESULT ³		STD	UNIT
			11.73 % O ₂	7 % O ₂		
Particulate (TSP)	Isokinetic, Gravimetric	09:45-10:40	1.2	1.8	320 ¹ , 32 ²	mg/m ³
			0.0056	-	0.58 ²	g/s
Sulfur Dioxide (SO ₂)	Barium Thorin Titrimetric	09:40-10:10	<3.4	<3.4	157 ¹	mg/m ³
			<1.3	<1.3	60 ¹ , 28 ²	ppm
			<0.0159	-	1.32 ²	g/s
Oxides of Nitrogen (NO _x as NO ₂)	Chemical Absorption, Colorimetric	09:45-09:50	7.6	11.5	376 ¹	mg/m ³
			4.0	6.1	200 ¹ , 50 ²	ppm
			0.0355	-	1.69 ²	g/s

REMARK:

- ¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)
² LIMIT VALUES IN ENVIRONMENTAL IMPACT ASSESMENT REPORT
³ DRY BASIS (25°C, 760 mm.Hg)
* SAMPLING BY MR. TEERAPONG NAULIN

Examined By.....

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

12/12/2019



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Approved By.....

(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

12/12/2019

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TEST REPORT

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ADDRESS : 20/9 Pakornsongkrohrad Rd., T. Maptaphut A. Muangrayong, Rayong 21150
SAMPLE SOURCE : PTT Asahi Chemical Co., Ltd.
SAMPLE POINT : SAR Stack
SAMPLING DATE : 22/11/2019 SAMPLE NO. : 05894-05896
RECEIVED DATE : 30/11/2019 SAMPLING TIME : 14:10-15:25
TESTED DATE : 30/11/2019 – 09/12/2019 REPORTED DATE : 12/12/2019


STACK DESCRIPTION

Height :	61.00 m	Type of Process :	Combustion
Diameter :	2.40 m	Type Of Fuel :	Natural Gas
Temperature :	41.00 °C	Oxygen Content :	7.01 %
Air Velocity :	1.58 m/s	Barometric Pressure :	760.00 mm.Hg
Flow rate ³ :	6.50 m ³ /s	Atmospheric Temperature :	35.00 °C
Moisture Content :	4.11 %		

PARAMETER*	TEST METHOD	TIME	RESULT ³		STD	UNIT
			7.01 % O ₂	7 % O ₂		
Particulate (TSP)	Isokinetic, Gravimetric	14:25-15:25	3.6	3.6	320 ¹ , 32 ²	mg/m ³
			0.0234	-	0.15 ²	g/s
Sulfur Dioxide (SO ₂)	Barium Thorin Titrimetric	14:15-14:45	<3.4	<3.4	157 ¹	mg/m ³
			<1.3	<1.3	60 ¹ , 28 ²	ppm
			<0.0221	-	0.34 ²	g/s
Oxides of Nitrogen (NO _x as NO ₂)	Chemical Absorption, Colorimetric	14:10-14:15	45.9	45.9	376 ¹	mg/m ³
			24.4	24.4	200 ¹ , 50 ²	ppm
			0.2984	-	0.44 ²	g/s

REMARK:

- ¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)
² LIMIT VALUES IN ENVIRONMENTAL IMPACT ASSESMENT REPORT
³ DRY BASIS (25°C, 760 mm.Hg)
* SAMPLING BY MR. TEERAPONG NAULIN

Examined By 
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