

ภาคผนวกที่ 3

รายงานผลการวิเคราะห์คุณภาพสิ่งแวดล้อม

- | | |
|------------|------------------------|
| ลำดับที่ 1 | คุณภาพอากาศในบรรยากาศ |
| ลำดับที่ 2 | ความเร็วและทิศทางการลม |
| ลำดับที่ 3 | ระดับเสียงในบรรยากาศ |

ลำดับที่ 1

คุณภาพอากาศในบรรยากาศ



Ref. No. AR393(1)-AR393(7)/08/23

Report No. 2308/492

193/1/66

Ambient Air Quality Analysis Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Company : Hyundai Engineering Company
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling by : Thitinan Ruangram
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
Date Received : 30 August 2023
Date of Analysis : 30 August-11 September 2023
Date Reported : 12 September 2023

Parameter	Sampling Method	Analytical Method	Construction of a Production Control Building Area								Standard
			Project Area								
			August 2023								
			22-23	23-24	24-25	25-26	26-27	27-28	28-29		
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.049	0.055	0.066	0.061	0.071	0.056	0.068	Less than 0.33	
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.021	0.024	0.028	0.025	0.035	0.025	0.031	Less than 0.12	

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.
Do not copy partial of this analysis report without official approval.



Laboratory Supervisor

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----- End of Report -----



Ref. No. AR389(1)-AR389(7)/09/23

Report No. 2309/341

193/1/66

Ambient Air Quality Analysis Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Company : Hyundai Engineering Company
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling by : Thitinan Ruangram
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
Date Received : 19 September 2023
Date of Analysis : 19-29 September 2023
Date Reported : 2 October 2023

Parameter	Sampling Method	Analytical Method	New Cooling Tower Area								Standard
			Project Area								
			September 2023								
			11-12	12-13	13-14	14-15	15-16	16-17	17-18		
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.058	0.064	0.061	0.057	0.066	0.059	0.053	Less than 0.33	
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.025	0.027	0.026	0.024	0.031	0.025	0.022	Less than 0.12	

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.

Do not copy partial of this analysis report without official approval.



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----- End of Report -----



Ref, No. AR394(1)-AR394(7)/08/23

Report No. 2308/493

193/1/66

Ambient Air Quality Analysis Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Company : Hyundai Engineering Company
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling by : Thitinan Ruangram
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
Date Received : 30 August 2023
Date of Analysis : 30 August-11 September 2023
Date Reported : 12 September 2023

Parameter	Sampling Method	Analytical Method	Diesel Hydrotreating Unit Area							Standard
			Project Area							
			August 2023							
			22-23	23-24	24-25	25-26	26-27	27-28	28-29	
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.056	0.048	0.068	0.062	0.052	0.044	0.058	Less than 0.33
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.024	0.022	0.032	0.030	0.024	0.022	0.028	Less than 0.12

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.

Do not copy partial of this analysis report without official approval.

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----- End of Report -----



Ref. No. AR288(1)-AR288(7)/10/23

Report No. 2310/335

193/1/66

Ambient Air Quality Analysis Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Company : Hyundai Engineering Company
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling by : Thitinan Ruangram
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 October 2023
Date Received : 18 October 2023
Date of Analysis : 18 October-1 November 2023
Date Reported : 2 November 2023

Parameter	Sampling Method	Analytical Method	Enclosed Ground Flare Area								Standard
			Project Area								
			Oct 2023								
			11-12	12-13	13-14	14-15	15-16	16-17	17-18		
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.052	0.028	0.024	0.029	0.046	0.053	0.044	Less than 0.33	
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.028	0.026	0.011	0.013	0.022	0.024	0.030	Less than 0.12	

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.

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Laboratory Supervisor

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----- End of Report -----



Ref. No. AR018(1)-AR018(7)/10/23

Report No. 2310/044

193/1/66

Ambient Air Quality Analysis Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Company : Hyundai Engineering Company
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling by : Thitinan Ruangram
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 25 September-2 October 2023
Date Received : 3 October 2023
Date of Analysis : 3-16 October 2023
Date Reported : 17 October 2023

Parameter	Sampling Method	Analytical Method	Wastewater Treatment Plant 4 Area								Standard
			Project Area								
			September-October 2023								
			25-26	26-27	27-28	28-29	29-30	30-1	1-2		
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.034	0.030	0.032	0.037	0.036	0.033	0.029	Less than 0.33	
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.015	0.013	0.012	0.018	0.017	0.014	0.012	Less than 0.12	

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.

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----- End of Report -----



Ref. No. AR594(1)-AR594(7)/11/23

Report No. 2311/544

R-Pro-1091-2/2021

Ambient Air Quality Analysis Report

Project : HMU-2
Company : Wison Engineering Ltd.
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Wison Engineering Ltd.
Sampling by : Atsadawut Nirapai
S.P.S. Consulting Service Co., Ltd.

Sampling Date : 21-28 November 2023
Date Received : 28 November 2023
Date of Analysis : 28 November-12 December 2023
Date Reported : 13 December 2023

Parameter	Sampling Method	Analytical Method	Project Area								Standard
			November 2023								
			21-22	22-23	23-24	24-25	25-26	26-27	27-28		
Total Suspended Particulate (mg/m ³)	High Volume Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix B)	0.065	0.137	0.153	0.146	0.183	0.107	0.151	Less than 0.33	
PM ₁₀ (mg/m ³)	High Volume PM ₁₀ Air Sampler	Gravimetric Method (U.S. EPA 40 CFR Part 50 Appendix J)	0.027	0.068	0.070	0.072	0.088	0.055	0.071	Less than 0.12	

Remark:

Standard = Ambient Air Quality Standards, Notification of the National Environment Board No. 24, B.E. 2547

Reported results refer to submitted samples only.

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(Khwanapha Thonghop)

Laboratory Supervisor

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----- End of Report -----

ลำดับที่ 2

ความเร็วและทิศทางการ



RY137/08/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Wind Speed Wind Direction	Diesel Hydrotreating Unit Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	4.167	2.381	-	-	-
NNE (11°-34°)	1.786	-	-	-	-
NE (34°-56°)	-	-	-	-	-
ENE (56°-79°)	-	-	-	-	-
E (79°-102°)	0.595	-	-	-	-
ESE (102°-124°)	0.595	-	-	-	-
SE (124°-146°)	-	-	-	-	-
SSE (146°-169°)	21.429	2.976	-	-	-
S (169°-191°)	54.167	0.595	-	-	-
SSW (191°-214°)	9.524	-	-	-	-
SW (214°-236°)	1.190	-	-	-	-
WSW (236°-259°)	-	-	-	-	-
W (259°-281°)	-	-	-	-	-
WNW (281°-304°)	-	-	-	-	-
NW (304°-326°)	-	-	-	-	-
NNW (326°-349°)	0.595	-	-	-	-
Total	94.048	5.952	0.000	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

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RY137/08/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Diesel Hydrotreating Unit Area														
	August 2023														
	22-23			23-24			24-25			25-26			26-27		
	WS		WD	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:00-11:00	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	S	0.9	3.2	SSE	0.9	3.2	S
11:00-12:00	1.3	4.8	S	0.9	3.2	SSW	0.9	3.2	SSE	1.3	4.8	SSE	1.3	4.8	SSE
12:00-13:00	1.3	4.8	S	0.9	3.2	S	1.3	4.8	SSE	1.3	4.8	SSE	0.9	3.2	S
13:00-14:00	1.3	4.8	S	1.3	4.8	SSE	0.9	3.2	S	1.8	6.4	S	1.3	4.8	SSW
14:00-15:00	1.3	4.8	S	1.3	4.8	S	1.3	4.8	S	1.3	4.8	S	1.8	6.4	SSE
15:00-16:00	1.3	4.8	SSE	1.3	4.8	S	0.9	3.2	SSW	1.3	4.8	S	1.8	6.4	SSE
16:00-17:00	0.9	3.2	S	0.9	3.2	S	1.3	4.8	SSE	1.3	4.8	S	1.8	6.4	SSE
17:00-18:00	0.9	3.2	S	0.9	3.2	S	1.3	4.8	S	1.3	4.8	S	0.9	3.2	S
18:00-19:00	0.9	3.2	SSE	0.9	3.2	S	1.3	4.8	S	1.3	4.8	S	1.3	4.8	SSE
19:00-20:00	0.9	3.2	S	0.9	3.2	S	1.3	4.8	S	1.3	4.8	S	0.9	3.2	SSW
20:00-21:00	0.9	3.2	SSW	1.3	4.8	SSE	1.3	4.8	S	1.3	4.8	S	0.9	3.2	SSE
21:00-22:00	1.3	4.8	SSW	0.9	3.2	S	0.9	3.2	S	0.9	3.2	S	0.9	3.2	SSE
22:00-23:00	0.9	3.2	S	0.9	3.2	S	0.9	3.2	SSW	1.3	4.8	N	0.9	3.2	S
23:00-00:00	0.9	3.2	S	0.9	3.2	S	1.8	6.4	N	2.7	9.7	N	0.9	3.2	S
00:00-01:00	0.9	3.2	S	0.9	3.2	S	1.8	6.4	N	2.2	8.0	N	0.9	3.2	S
01:00-02:00	0.9	3.2	S	0.9	3.2	S	0.9	3.2	NNE	1.3	4.8	NNW	0.4	1.6	SSE
02:00-03:00	0.9	3.2	S	0.9	3.2	S	0.4	1.6	NNE	0.9	3.2	N	0.4	1.6	SSE
03:00-04:00	0.9	3.2	S	0.9	3.2	S	0.9	3.2	N	0.9	3.2	NNE	0.4	1.6	SSE
04:00-05:00	0.9	3.2	S	0.9	3.2	S	0.4	1.6	N	0.4	1.6	SSE	0.4	1.6	ESE
05:00-06:00	0.9	3.2	S	1.3	4.8	S	0.4	1.6	E	0.4	1.6	SSE	0.9	3.2	N
06:00-07:00	0.9	3.2	S	1.3	4.8	SSE	0.9	3.2	SSE	0.9	3.2	SSE	0.4	1.6	N
07:00-08:00	0.9	3.2	S	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	SSE	0.4	1.6	N
08:00-09:00	0.9	3.2	SSE	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	S	0.4	1.6	SW
09:00-10:00	0.9	3.2	S	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	SSE	0.9	3.2	S
Temperature Average (°C)	31.8			31.9			31.3			31.4			32.2		
Barometric Pressure Average (mmHg)	756.89			756.72			756.99			757.21			757.17		
Sky Condition	Fair			Fair			Fair			Fair			Fair		

Reported results refer to measurement time only.

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(Signature)

Technical Supervisor

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RY137/08/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Diesel Hydrotreating Unit Area					
	August 2023					
	27-28			28-29		
	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr	
10:00-11:00	0.9	3.2	SSW	0.9	3.2	S
11:00-12:00	0.9	3.2	S	0.9	3.2	S
12:00-13:00	0.9	3.2	SSW	1.3	4.8	S
13:00-14:00	0.9	3.2	SSW	1.8	6.4	SSE
14:00-15:00	0.9	3.2	SSW	1.8	6.4	SSE
15:00-16:00	0.9	3.2	S	1.3	4.8	S
16:00-17:00	1.3	4.8	S	1.3	4.8	SSE
17:00-18:00	0.9	3.2	S	1.3	4.8	S
18:00-19:00	0.9	3.2	S	1.3	4.8	SSE
19:00-20:00	0.9	3.2	S	1.3	4.8	S
20:00-21:00	0.9	3.2	S	0.9	3.2	S
21:00-22:00	1.3	4.8	S	1.3	4.8	S
22:00-23:00	1.3	4.8	S	1.3	4.8	SSW
23:00-00:00	0.9	3.2	S	0.9	3.2	S
00:00-01:00	0.9	3.2	SSW	0.9	3.2	SSE
01:00-02:00	0.9	3.2	SSE	0.9	3.2	SSW
02:00-03:00	0.9	3.2	S	0.4	1.6	S
03:00-04:00	0.4	1.6	SSW	0.4	1.6	SSW
04:00-05:00	0.4	1.6	S	0.9	3.2	S
05:00-06:00	0.4	1.6	SW	0.9	3.2	S
06:00-07:00	0.4	1.6	S	0.9	3.2	SSE
07:00-08:00	0.4	1.6	SSE	0.9	3.2	S
08:00-09:00	0.4	1.6	S	0.9	3.2	S
09:00-10:00	0.9	3.2	S	1.3	4.8	SSE
Temperature Average (°C)	32.3			32.6		
Barometric Pressure Average (mmHg)	756.01			755.38		
Sky Condition	Fair			Fair		

Reported results refer to measurement time only.

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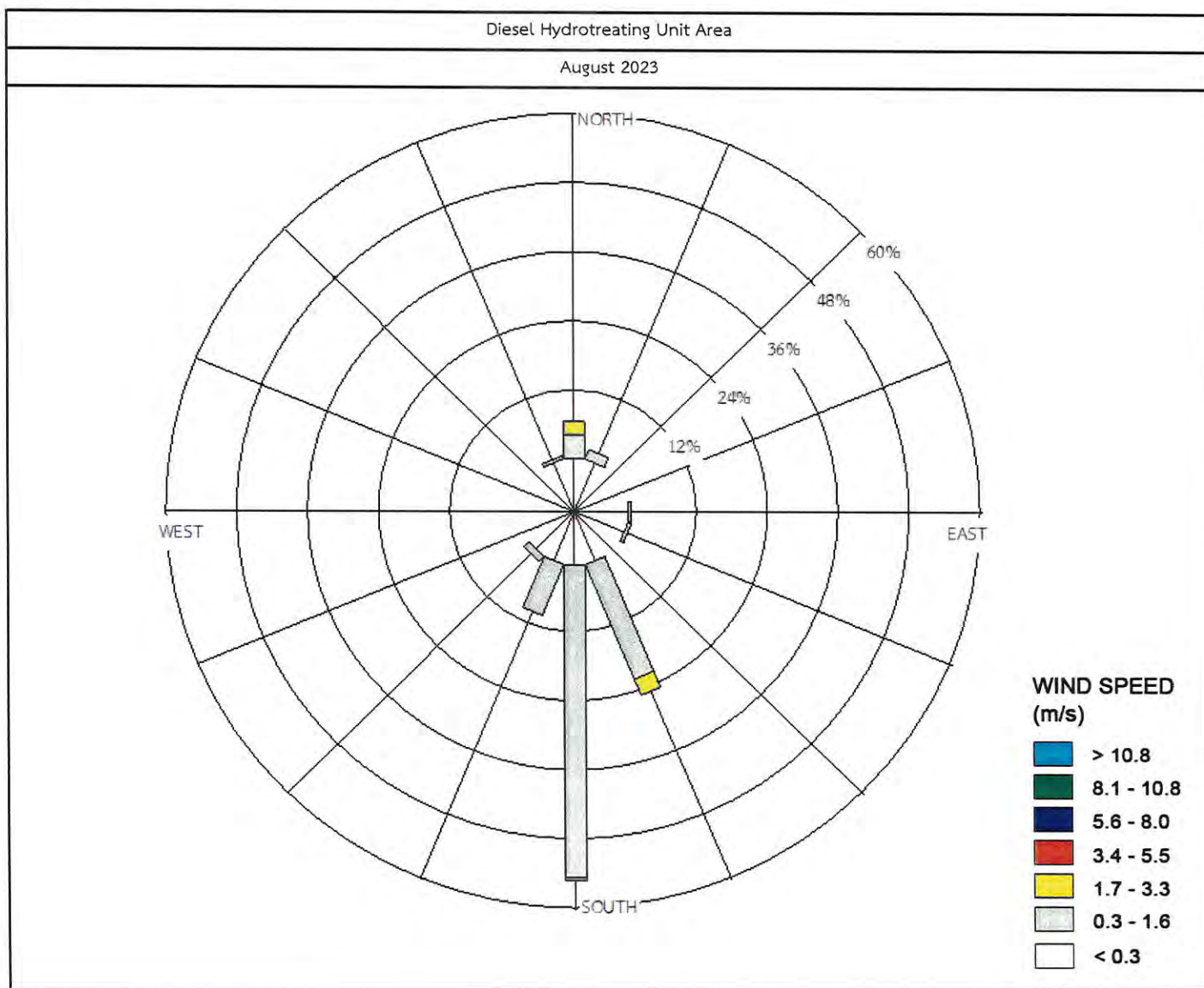


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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 22-29 August 2023
Date Reported : 4 September 2023



Reported results refer to measurement time only.

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 22-29 August 2023
Date Reported : 4 September 2023

Wind Speed Wind Direction	Construction of a Production Control Building Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	-	-	-	-	-
NNE (11°-34°)	1.190	-	-	-	-
NE (34°-56°)	0.595	-	-	-	-
ENE (56°-79°)	2.382	-	-	-	-
E (79°-102°)	-	-	-	-	-
ESE (102°-124°)	1.190	-	-	-	-
SE (124°-146°)	4.167	-	-	-	-
SSE (146°-169°)	34.524	-	-	-	-
S (169°-191°)	44.048	-	-	-	-
SSW (191°-214°)	5.952	-	-	-	-
SW (214°-236°)	5.357	-	-	-	-
WSW (236°-259°)	-	-	-	-	-
W (259°-281°)	0.595	-	-	-	-
WNW (281°-304°)	-	-	-	-	-
NW (304°-326°)	-	-	-	-	-
NNW (326°-349°)	-	-	-	-	-
Total	100.000	0.000	0.000	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

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Technical Supervisor

04 / 09 / 66



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด

S.P.S. CONSULTING SERVICE CO., LTD.

7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900

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RY136/08/66

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V

Sampling Date : 22-29 August 2023

Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000

Date Reported : 4 September 2023

Client Name/Address : Hyundai Engineering Company

Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of a Production Control Building Area														
	August 2023														
	22-23			23-24			24-25			25-26			26-27		
	WS		WD	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:00-11:00	0.9	3.2	S	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	SSE	0.4	1.6	SSE
11:00-12:00	0.9	3.2	SW	0.4	1.6	S	0.9	3.2	SSE	0.4	1.6	SSE	0.9	3.2	S
12:00-13:00	0.9	3.2	S	0.9	3.2	S	0.9	3.2	S	0.9	3.2	S	0.4	1.6	S
13:00-14:00	0.9	3.2	SSW	0.9	3.2	S	0.9	3.2	S	0.9	3.2	SSW	0.9	3.2	S
14:00-15:00	0.9	3.2	SSE	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	S	0.9	3.2	S
15:00-16:00	0.9	3.2	SSE	0.9	3.2	S	0.9	3.2	S	0.9	3.2	SSW	1.3	4.8	S
16:00-17:00	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	SSW	0.9	3.2	S	0.9	3.2	SSE
17:00-18:00	0.4	1.6	SE	0.4	1.6	SSE	0.4	1.6	S	0.9	3.2	SW	0.9	3.2	SSE
18:00-19:00	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	S	0.9	3.2	SSE	0.9	3.2	S
19:00-20:00	0.4	1.6	SW	0.4	1.6	S	0.9	3.2	SSW	0.4	1.6	S	0.9	3.2	S
20:00-21:00	0.4	1.6	S	0.4	1.6	SE	0.4	1.6	SSE	0.4	1.6	S	0.4	1.6	SSW
21:00-22:00	0.9	3.2	SW	0.9	3.2	SSE	0.4	1.6	SSE	0.4	1.6	S	0.9	3.2	SE
22:00-23:00	0.4	1.6	SSE	0.4	1.6	S	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	S
23:00-00:00	0.4	1.6	SW	0.4	1.6	S	0.4	1.6	SSE	0.9	3.2	ESE	0.9	3.2	SSE
00:00-01:00	0.4	1.6	SSE	0.4	1.6	S	0.4	1.6	NNE	0.4	1.6	S	0.4	1.6	SE
01:00-02:00	0.4	1.6	S	0.9	3.2	SSE	0.9	3.2	NNE	0.4	1.6	S	0.4	1.6	S
02:00-03:00	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	NE	0.4	1.6	S	0.4	1.6	S
03:00-04:00	0.4	1.6	SSE	0.4	1.6	SSE	0.4	1.6	ENE	0.4	1.6	S	0.4	1.6	S
04:00-05:00	0.4	1.6	S	0.4	1.6	S	0.4	1.6	ENE	0.9	3.2	SSE	0.9	3.2	SSE
05:00-06:00	0.4	1.6	S	0.4	1.6	SSE	0.4	1.6	ENE	0.9	3.2	SSE	0.4	1.6	S
06:00-07:00	0.4	1.6	SSE	0.9	3.2	SSE	0.4	1.6	ENE	0.4	1.6	SSE	0.4	1.6	S
07:00-08:00	0.4	1.6	SSE	0.4	1.6	SSE	0.9	3.2	W	0.4	1.6	SSE	0.4	1.6	S
08:00-09:00	0.4	1.6	SSE	0.4	1.6	SW	0.4	1.6	SSE	0.4	1.6	S	0.9	3.2	S
09:00-10:00	0.4	1.6	S	0.4	1.6	S	0.4	1.6	SE	0.4	1.6	SSE	0.9	3.2	S
Temperature Average (°C)	30.8			31.5			30.7			30.8			31.1		
Barometric Pressure Average (mmHg)	757.11			756.79			757.09			757.50			757.19		
Sky Condition	Fair			Fair			Fair			Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

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RS/H008/23/AUG



RY136/08/66

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of a Production Control Building Area					
	August 2023					
	27-28			28-29		
	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr	
10:00-11:00	0.4	1.6	SSE	0.4	1.6	S
11:00-12:00	0.4	1.6	S	0.9	3.2	S
12:00-13:00	0.9	3.2	SSW	0.9	3.2	S
13:00-14:00	0.4	1.6	SSE	1.3	4.8	S
14:00-15:00	0.9	3.2	S	0.9	3.2	SSW
15:00-16:00	0.9	3.2	S	0.9	3.2	S
16:00-17:00	0.9	3.2	S	1.3	4.8	S
17:00-18:00	0.4	1.6	S	0.9	3.2	S
18:00-19:00	0.4	1.6	S	0.9	3.2	S
19:00-20:00	0.4	1.6	SSE	0.9	3.2	S
20:00-21:00	0.4	1.6	S	0.4	1.6	SSE
21:00-22:00	0.9	3.2	S	0.9	3.2	SW
22:00-23:00	0.9	3.2	SW	0.4	1.6	SSE
23:00-00:00	0.4	1.6	S	0.4	1.6	S
00:00-01:00	0.4	1.6	SSE	0.9	3.2	ESE
01:00-02:00	0.4	1.6	SW	0.9	3.2	SE
02:00-03:00	0.4	1.6	S	0.4	1.6	S
03:00-04:00	0.4	1.6	S	0.4	1.6	SSE
04:00-05:00	0.9	3.2	SE	0.4	1.6	S
05:00-06:00	0.9	3.2	SSE	0.4	1.6	SSW
06:00-07:00	0.9	3.2	SSE	0.4	1.6	S
07:00-08:00	0.9	3.2	SSE	0.4	1.6	SSE
08:00-09:00	0.9	3.2	SSE	0.4	1.6	SSE
09:00-10:00	0.4	1.6	SSW	0.4	1.6	SSE
Temperature Average (°C)	31.8			31.7		
Barometric Pressure Average (mmHg)	756.07			755.40		
Sky Condition	Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

04 / 09 / 66



RY136/08/66

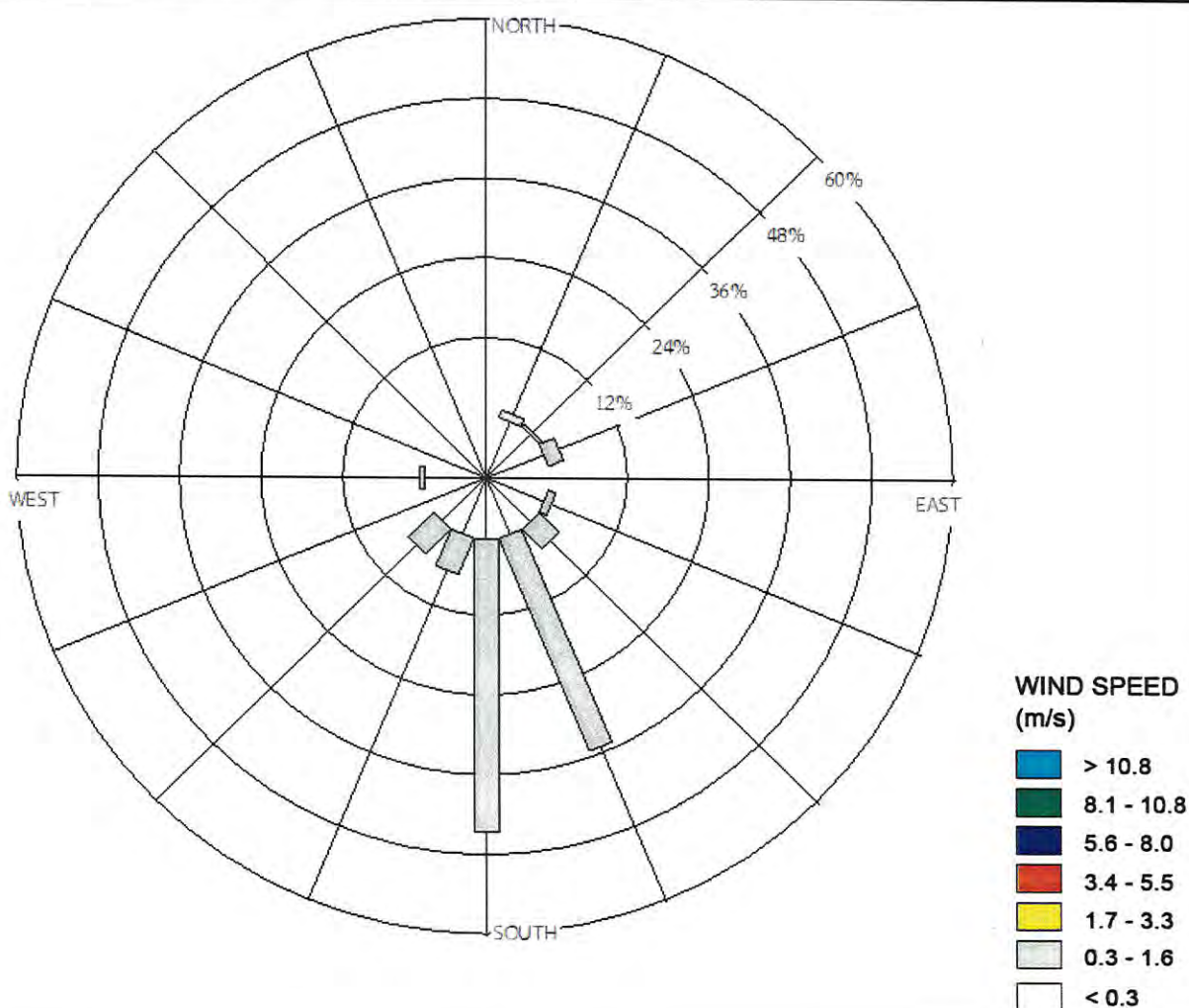
193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Construction of a Production Control Building Area

August 2023



Reported results refer to measurement time only.

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Technical Supervisor

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RY071/09/66

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000 Date Reported : 22 September 2023
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Wind Speed Wind Direction	New Cooling Tower Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	-	-	-	-	-
NNE (11°-34°)	-	-	-	-	-
NE (34°-56°)	-	-	-	-	-
ENE (56°-79°)	-	-	-	-	-
E (79°-102°)	-	-	-	-	-
ESE (102°-124°)	-	1.190	-	-	-
SE (124°-146°)	-	-	-	-	-
SSE (146°-169°)	-	-	-	-	-
S (169°-191°)	-	1.785	-	-	-
SSW (191°-214°)	-	-	-	-	-
SW (214°-236°)	-	8.929	-	-	-
WSW (236°-259°)	-	27.381	39.881	-	-
W (259°-281°)	-	7.738	-	-	-
WNW (281°-304°)	4.167	4.762	-	-	-
NW (304°-326°)	4.167	-	-	-	-
NNW (326°-349°)	-	-	-	-	-
Total	8.334	51.785	39.881	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

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Uraporn Tagaras

Technical Supervisor

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RY071/09/66

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000

Sampling Date : 11-18 September 2023

Date Reported : 22 September 2023

Client Name/Address : Hyundai Engineering Company

Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area														
	September 2023														
	11-12			12-13			13-14			14-15			15-16		
	WS		WD	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
11:00-12:00	3.6	12.9	WSW	3.6	12.9	WSW	3.6	12.9	WSW	2.7	9.7	WSW	3.1	11.3	WSW
12:00-13:00	4.0	14.5	WSW	3.1	11.3	WSW	3.6	12.9	WSW	3.1	11.3	WSW	3.6	12.9	WSW
13:00-14:00	4.0	14.5	WSW	3.6	12.9	WSW	3.6	12.9	WSW	3.6	12.9	WSW	3.6	12.9	WSW
14:00-15:00	4.0	14.5	WSW	3.6	12.9	WSW	3.1	11.3	WSW	3.6	12.9	WSW	4.0	14.5	WSW
15:00-16:00	4.0	14.5	WSW	4.0	14.5	WSW	3.6	12.9	WSW	4.0	14.5	WSW	4.0	14.5	WSW
16:00-17:00	4.0	14.5	WSW	3.6	12.9	WSW	3.6	12.9	WSW	4.0	14.5	WSW	4.5	16.1	WSW
17:00-18:00	4.0	14.5	WSW	3.1	11.3	WSW	4.0	14.5	WSW	4.0	14.5	WSW	4.0	14.5	WSW
18:00-19:00	3.1	11.3	SW	3.6	12.9	WSW	3.6	12.9	WSW	4.0	14.5	WSW	3.6	12.9	WSW
19:00-20:00	3.1	11.3	SW	3.6	12.9	WSW	3.1	11.3	WSW	2.7	9.7	WSW	3.1	11.3	SW
20:00-21:00	3.6	12.9	WSW	3.1	11.3	WSW	3.1	11.3	WSW	2.7	9.7	WSW	2.7	9.7	WSW
21:00-22:00	3.6	12.9	WSW	2.7	9.7	W	2.7	9.7	W	2.2	8.0	WNW	2.7	9.7	WSW
22:00-23:00	3.6	12.9	WSW	2.7	9.7	W	2.2	8.0	W	0.4	1.6	NW	3.1	11.3	WSW
23:00-00:00	3.1	11.3	WSW	2.2	8.0	W	1.8	6.4	W	0.4	1.6	NW	2.7	9.7	WSW
00:00-01:00	2.7	9.7	WSW	1.8	6.4	WNW	1.8	6.4	WNW	0.4	1.6	NW	2.2	8.0	W
01:00-02:00	3.1	11.3	WSW	2.2	8.0	WNW	1.3	4.8	WNW	0.4	1.6	NW	2.2	8.0	WSW
02:00-03:00	2.7	9.7	WSW	2.2	8.0	WSW	0.4	1.6	WNW	0.9	3.2	NW	1.8	6.4	W
03:00-04:00	3.1	11.3	SW	2.7	9.7	WSW	0.4	1.6	WNW	0.9	3.2	NW	2.2	8.0	W
04:00-05:00	3.1	11.3	WSW	3.1	11.3	WSW	1.8	6.4	W	1.8	6.4	WNW	2.7	9.7	WSW
05:00-06:00	3.6	12.9	WSW	2.2	8.0	WSW	1.3	4.8	WNW	1.8	6.4	W	2.7	9.7	WSW
06:00-07:00	3.6	12.9	WSW	2.2	8.0	WSW	1.3	4.8	WNW	1.8	6.4	WNW	2.2	8.0	WSW
07:00-08:00	3.6	12.9	WSW	2.7	9.7	SW	1.8	6.4	WNW	2.7	9.7	WSW	2.7	9.7	WSW
08:00-09:00	3.1	11.3	SW	2.7	9.7	SW	2.2	8.0	W	2.7	9.7	WSW	2.7	9.7	SW
09:00-10:00	3.6	12.9	WSW	3.1	11.3	WSW	2.2	8.0	WSW	2.7	9.7	SW	2.7	9.7	SW
10:00-11:00	3.6	12.9	WSW	3.6	12.9	WSW	2.7	9.7	WSW	2.7	9.7	SW	3.1	11.3	WSW
Temperature Average (°C)	30.6			31.1			30.6			29.0			30.2		
Barometric Pressure Average (mmHg)	755.22			755.77			755.64			755.10			754.24		
Sky Condition	Cloudy and Rainy			Fair			Fair			Cloudy and Rainy			Cloudy and Rainy		

Reported results refer to measurement time only.

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Technical Supervisor

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area					
	September 2023					
	16-17			17-18		
	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr	
11:00-12:00	3.6	12.9	WSW	3.1	11.3	WSW
12:00-13:00	4.0	14.5	WSW	3.6	12.9	WSW
13:00-14:00	4.0	14.5	WSW	4.0	14.5	WSW
14:00-15:00	4.0	14.5	WSW	4.0	14.5	WSW
15:00-16:00	3.6	12.9	WSW	4.0	14.5	WSW
16:00-17:00	3.6	12.9	WSW	4.0	14.5	WSW
17:00-18:00	3.6	12.9	WSW	4.0	14.5	WSW
18:00-19:00	3.6	12.9	WSW	3.6	12.9	WSW
19:00-20:00	4.0	14.5	WSW	2.7	9.7	S
20:00-21:00	4.0	14.5	WSW	1.8	6.4	S
21:00-22:00	4.0	14.5	WSW	1.8	6.4	ESE
22:00-23:00	3.6	12.9	WSW	1.8	6.4	ESE
23:00-00:00	3.6	12.9	WSW	3.1	11.3	S
00:00-01:00	4.0	14.5	WSW	4.0	14.5	WSW
01:00-02:00	3.1	11.3	WSW	3.6	12.9	WSW
02:00-03:00	2.7	9.7	SW	3.6	12.9	WSW
03:00-04:00	2.7	9.7	SW	2.2	8.0	WNW
04:00-05:00	2.7	9.7	SW	2.2	8.0	W
05:00-06:00	2.2	8.0	SW	0.9	3.2	NW
06:00-07:00	3.1	11.3	WSW	1.3	4.8	WNW
07:00-08:00	3.1	11.3	WSW	1.3	4.8	WNW
08:00-09:00	2.7	9.7	WSW	2.2	8.0	WSW
09:00-10:00	3.1	11.3	WSW	2.2	8.0	WSW
10:00-11:00	3.1	11.3	WSW	2.7	9.7	WSW
Temperature Average (°C)	31.0			31.0		
Barometric Pressure Average (mmHg)	753.97			754.60		
Sky Condition	Cloudy and Rainy			Fair		

Reported results refer to measurement time only.

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(Uraporn Tajaras)

Technical Supervisor

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RY071/09/66

193/1/66

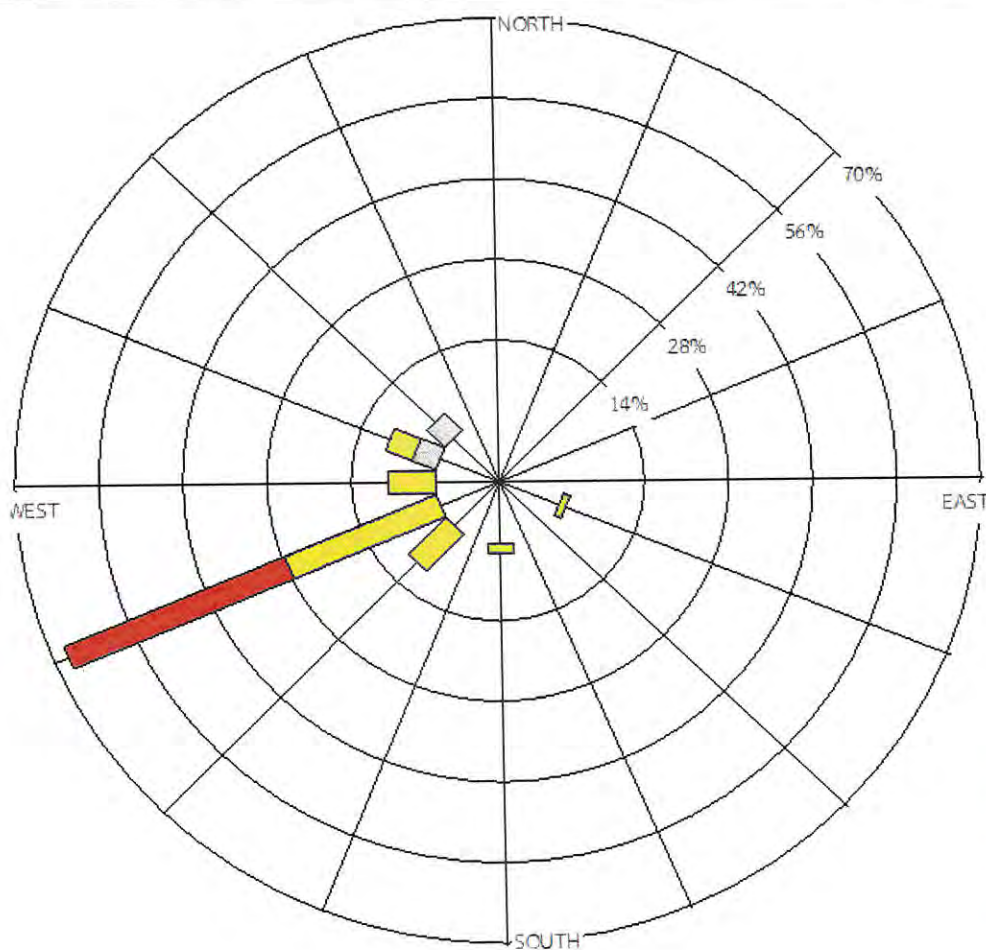
Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

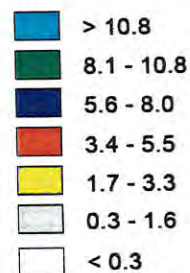
Sampling Date : 11-18 September 2023
Date Reported : 22 September 2023

New Cooling Tower Area

September 2023



WIND SPEED
(m/s)



Reported results refer to measurement time only.

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Technical Supervisor

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RY179/10/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 October 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 25 October 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Wind Speed Wind Direction	Enclosed Ground Flare Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	16.071	1.786	-	-	-
NNE (11°-34°)	8.333	2.381	-	-	-
NE (34°-56°)	7.738	3.571	-	-	-
ENE (56°-79°)	0.595	-	-	-	-
E (79°-102°)	-	-	-	-	-
ESE (102°-124°)	-	0.595	-	-	-
SE (124°-146°)	0.595	0.595	-	-	-
SSE (146°-169°)	-	-	-	-	-
S (169°-191°)	-	-	-	-	-
SSW (191°-214°)	1.786	-	-	-	-
SW (214°-236°)	7.143	13.690	-	-	-
WSW (236°-259°)	2.381	1.786	-	-	-
W (259°-281°)	11.905	3.571	-	-	-
WNW (281°-304°)	2.978	-	-	-	-
NW (304°-326°)	0.595	-	-	-	-
NNW (326°-349°)	11.310	0.595	-	-	-
Total	71.430	28.570	0.000	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

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Technical Supervisor

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RY179/10/66

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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 October 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 25 October 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Enclosed Ground Flare Area											
	October 2023											
	11-12			12-13			13-14			14-15		
	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:00-11:00	2.2	8.0	SW	1.3	4.8	NNW	2.2	8.0	NNE	1.8	6.4	NNE
11:00-12:00	2.7	9.7	SW	1.3	4.8	NNE	2.2	8.0	NNE	1.8	6.4	NNW
12:00-13:00	2.2	8.0	SW	0.4	1.6	NNE	1.8	6.4	NE	2.2	8.0	N
13:00-14:00	2.7	9.7	SW	1.8	6.4	WSW	1.8	6.4	SW	2.2	8.0	NE
14:00-15:00	2.7	9.7	SW	2.2	8.0	SW	2.2	8.0	SW	2.2	8.0	SW
15:00-16:00	2.7	9.7	SW	2.2	8.0	SW	2.7	9.7	SW	2.7	9.7	W
16:00-17:00	2.2	8.0	SW	1.3	4.8	NNW	2.2	8.0	W	2.2	8.0	WSW
17:00-18:00	0.9	3.2	NNW	1.3	4.8	W	1.3	4.8	W	1.8	6.4	W
18:00-19:00	0.4	1.6	NNW	0.4	1.6	W	0.9	3.2	SW	0.9	3.2	W
19:00-20:00	0.4	1.6	N	0.9	3.2	W	0.9	3.2	SW	0.4	1.6	W
20:00-21:00	0.9	3.2	NE	0.4	1.6	W	0.4	1.6	W	1.3	4.8	NE
21:00-22:00	0.4	1.6	N	0.4	1.6	N	1.3	4.8	W	0.4	1.6	N
22:00-23:00	0.9	3.2	N	0.9	3.2	NE	0.4	1.6	W	0.4	1.6	N
23:00-00:00	0.9	3.2	N	1.8	6.4	W	0.4	1.6	W	0.4	1.6	N
00:00-01:00	0.9	3.2	N	0.4	1.6	W	0.4	1.6	NE	0.4	1.6	N
01:00-02:00	0.9	3.2	N	1.3	4.8	W	0.9	3.2	NE	0.9	3.2	N
02:00-03:00	0.4	1.6	NNW	0.9	3.2	W	0.9	3.2	N	0.4	1.6	ENE
03:00-04:00	0.4	1.6	W	0.4	1.6	W	0.4	1.6	NNW	0.4	1.6	NNE
04:00-05:00	0.4	1.6	N	0.4	1.6	W	0.4	1.6	WSW	0.9	3.2	NNE
05:00-06:00	0.9	3.2	NE	0.4	1.6	N	0.4	1.6	W	0.4	1.6	NNE
06:00-07:00	1.3	4.8	N	0.4	1.6	N	0.4	1.6	NNW	0.4	1.6	NNE
07:00-08:00	0.9	3.2	N	0.9	3.2	N	0.9	3.2	N	0.9	3.2	N
08:00-09:00	1.3	4.8	NE	1.3	4.8	NNE	1.3	4.8	NNW	0.9	3.2	NNE
09:00-10:00	1.8	6.4	NE	1.8	6.4	N	1.3	4.8	NNW	1.8	6.4	N
Temperature Average (°C)	28.0			28.0			29.9			29.6		
Barometric Pressure Average (mmHg)	758.60			758.84			757.64			757.85		
Sky Condition	Cloudy and Rainy			Cloudy and Rainy			Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.



Technical Supervisor

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RY179/10/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 October 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 25 October 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Enclosed Ground Flare Area								
	October 2023								
	15-16			16-17			17-18		
	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:00-11:00	1.8	6.4	NE	1.8	6.4	NE	1.8	6.4	ESE
11:00-12:00	1.3	4.8	NNW	1.3	4.8	NNE	0.9	3.2	NNE
12:00-13:00	1.3	4.8	N	0.9	3.2	WSW	1.8	6.4	SW
13:00-14:00	1.8	6.4	NNE	2.2	8.0	SW	1.3	4.8	SW
14:00-15:00	2.2	8	SW	1.8	6.4	SW	2.2	8.0	SW
15:00-16:00	2.2	8	SW	2.2	8.0	WSW	2.2	8.0	SW
16:00-17:00	2.2	8	SW	2.2	8.0	W	1.3	4.8	SW
17:00-18:00	1.3	4.8	W	1.8	6.4	W	2.2	8.0	SW
18:00-19:00	1.3	4.8	NNW	0.4	1.6	W	1.8	6.4	SW
19:00-20:00	0.4	1.6	WSW	0.4	1.6	NNW	0.9	3.2	SW
20:00-21:00	1.3	4.8	WNW	0.4	1.6	WSW	0.4	1.6	WNW
21:00-22:00	0.9	3.2	WNW	0.4	1.6	WNW	0.4	1.6	SSW
22:00-23:00	0.4	1.6	NE	0.4	1.6	WNW	0.9	3.2	SSW
23:00-00:00	0.9	3.2	NE	0.9	3.2	NE	0.9	3.2	SW
00:00-01:00	0.4	1.6	NNE	0.9	3.2	NE	0.4	1.6	SW
01:00-02:00	0.4	1.6	NW	0.4	1.6	NE	0.9	3.2	SW
02:00-03:00	0.4	1.6	NNE	0.4	1.6	NNW	1.8	6.4	SE
03:00-04:00	0.4	1.6	N	0.4	1.6	NNW	0.9	3.2	SE
04:00-05:00	1.3	4.8	N	0.9	3.2	NNW	0.4	1.6	SSW
05:00-06:00	0.9	3.2	N	0.9	3.2	NNW	0.4	1.6	SW
06:00-07:00	0.4	1.6	NNW	0.9	3.2	N	0.4	1.6	SW
07:00-08:00	0.9	3.2	NNE	0.4	1.6	NNW	0.9	3.2	SW
08:00-09:00	0.9	3.2	N	1.3	4.8	NE	0.4	1.6	SW
09:00-10:00	1.3	4.8	NNE	1.8	6.4	NE	0.9	3.2	NNW
Temperature Average (°C)	28.3			29.2			28.6		
Barometric Pressure Average (mmHg)	757.63			758.29			758.23		
Sky Condition	Cloudy and Rainy			Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.



(Signature of Technical Supervisor)

Technical Supervisor

25 / 10 / 23

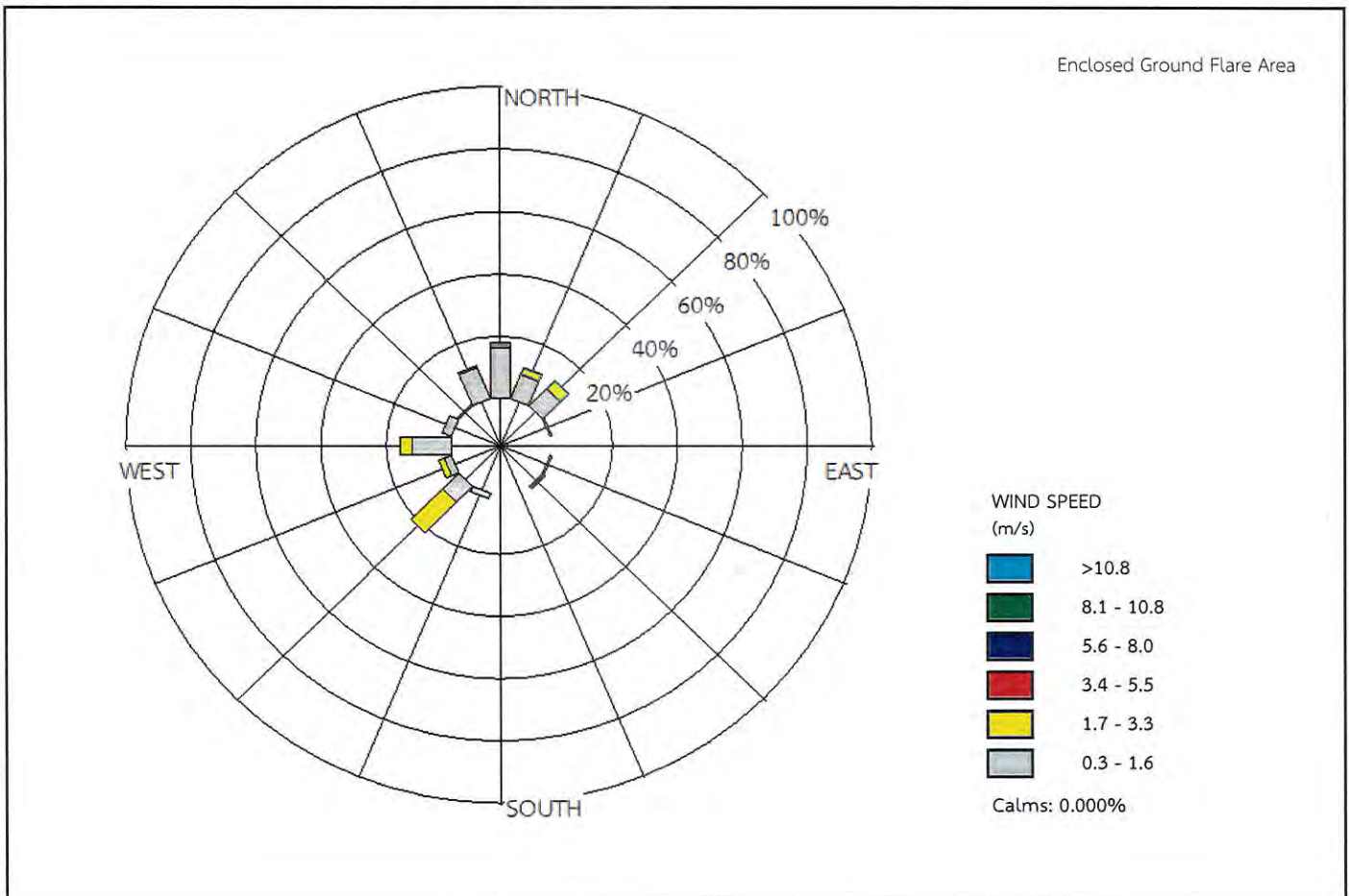


RY179/10/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 11-18 October 2023
Date Reported : 25 October 2023



Reported results refer to measurement time only.

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Technical Supervisor

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RY145/09/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 25 September - 2 October 2023
Date Reported : 6 October 2023

Wind Speed Wind Direction	Wastewater Treatment Plant 4 Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	-	-	-	-	-
NNE (11°-34°)	1.190	-	-	-	-
NE (34°-56°)	1.190	-	-	-	-
ENE (56°-79°)	4.167	-	-	-	-
E (79°-102°)	-	-	-	-	-
ESE (102°-124°)	-	-	-	-	-
SE (124°-146°)	-	-	-	-	-
SSE (146°-169°)	-	-	-	-	-
S (169°-191°)	2.381	0.595	-	-	-
SSW (191°-214°)	2.976	5.357	1.190	-	-
SW (214°-236°)	2.381	2.976	-	-	-
WSW (236°-259°)	1.190	-	-	-	-
W (259°-281°)	1.789	1.190	-	-	-
WNW (281°-304°)	12.500	2.381	-	-	-
NW (304°-326°)	35.714	15.476	-	-	-
NNW (326°-349°)	4.762	0.595	-	-	-
Total	70.240	28.570	1.190	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

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RY145/09/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 25 September - 2 October 2023
Date Reported : 6 October 2023

Time	Wastewater Treatment Plant 4 Area														
	September - October 2023														
	11-12			12-13			13-14			14-15			15-16		
	WS		WD	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:00-11:00	0.9	3.2	ENE	2.2	8.0	SSW	0.9	3.2	NW	1.8	6.4	WNW	1.3	4.8	NW
11:00-12:00	0.4	1.6	NE	2.7	9.7	S	0.9	3.2	NW	2.2	8.0	NW	1.3	4.8	NW
12:00-13:00	0.4	1.6	NE	3.1	11.3	SSW	1.3	4.8	NNW	2.2	8.0	NW	1.3	4.8	NW
13:00-14:00	0.4	1.6	SW	3.6	12.9	SSW	1.3	4.8	NNW	1.8	6.4	NW	1.3	4.8	NW
14:00-15:00	0.4	1.6	SW	3.1	11.3	SSW	1.8	6.4	NW	1.3	4.8	NW	1.3	4.8	NW
15:00-16:00	2.2	8.0	SW	3.6	12.9	SSW	1.8	6.4	NW	1.3	4.8	NW	1.3	4.8	NW
16:00-17:00	1.8	6.4	SSW	2.7	9.7	SW	1.8	6.4	NW	0.9	3.2	WNW	1.3	4.8	NW
17:00-18:00	1.8	6.4	SSW	2.7	9.7	WNW	1.8	6.4	NW	0.9	3.2	WNW	1.8	6.4	NW
18:00-19:00	0.4	1.6	NW	1.8	6.4	NW	1.8	6.4	NW	0.9	3.2	WNW	1.8	6.4	NW
19:00-20:00	0.9	3.2	WSW	0.4	1.6	ENE	1.8	6.4	NW	0.9	3.2	WNW	1.3	4.8	WNW
20:00-21:00	0.9	3.2	WSW	0.4	1.6	ENE	1.8	6.4	NW	1.3	4.8	NW	0.9	3.2	W
21:00-22:00	0.4	1.6	SSW	0.9	3.2	ENE	1.3	4.8	WNW	1.3	4.8	NW	1.8	6.4	SW
22:00-23:00	0.4	1.6	SSW	0.9	3.2	ENE	1.3	4.8	WNW	0.9	3.2	W	1.3	4.8	SW
23:00-00:00	0.4	1.6	SSW	0.9	3.2	ENE	1.3	4.8	WNW	0.9	3.2	W	0.9	3.2	NW
00:00-01:00	1.3	4.8	SSW	0.9	3.2	ENE	1.3	4.8	NW	1.3	4.8	NW	0.4	1.6	NW
01:00-02:00	3.1	11.3	SW	0.4	1.6	NNE	1.3	4.8	NW	1.3	4.8	NW	0.4	1.6	NW
02:00-03:00	1.8	6.4	WNW	0.4	1.6	NNE	1.3	4.8	NW	1.3	4.8	NW	0.9	3.2	NW
03:00-04:00	0.4	1.6	WNW	0.9	3.2	NNW	1.3	4.8	NW	1.3	4.8	NW	0.9	3.2	WNW
04:00-05:00	0.9	3.2	WNW	0.9	3.2	NNW	1.3	4.8	NW	1.3	4.8	NW	0.9	3.2	NW
05:00-06:00	1.8	6.4	WNW	0.9	3.2	NW	1.8	6.4	SSW	1.3	4.8	NW	1.3	4.8	NW
06:00-07:00	3.1	11.3	SSW	0.9	3.2	NW	1.8	6.4	SSW	1.8	6.4	W	0.9	3.2	NW
07:00-08:00	1.3	4.8	SSW	0.9	3.2	NW	1.8	6.4	SW	1.8	6.4	W	0.9	3.2	NW
08:00-09:00	2.7	9.7	SSW	0.9	3.2	NW	2.2	8.0	NW	1.3	4.8	WNW	1.3	4.8	NNW
09:00-10:00	1.3	4.8	S	0.9	3.2	NW	2.2	8.0	NW	1.3	4.8	WNW	1.8	6.4	NNW
Temperature Average (°C)	27.8			27.2			28.7			29.1			29.0		
Barometric Pressure Average (mmHg)	755.80			755.44			756.83			756.96			757.28		
Sky Condition	Cloudy and Rainy			Cloudy and Rainy			Cloudy and Rainy			Cloudy and Rainy			Cloudy and Rainy		

Reported results refer to measurement time only.

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Technical Supervisor

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RY145/09/66

193/1/66

Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 25 September - 2 October 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 6 October 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Wastewater Treatment Plant 4 Area					
	September - October 2023					
	16-17			17-18		
	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr	
10:00-11:00	1.8	6.4	NW	1.3	4.8	NW
11:00-12:00	1.8	6.4	NW	1.3	4.8	NW
12:00-13:00	1.8	6.4	NW	1.3	4.8	NNW
13:00-14:00	1.8	6.4	NW	1.8	6.4	NW
14:00-15:00	1.8	6.4	NW	1.8	6.4	NW
15:00-16:00	2.2	8.0	NW	1.3	4.8	NW
16:00-17:00	1.8	6.4	NW	1.3	4.8	NW
17:00-18:00	1.3	4.8	S	0.9	3.2	NW
18:00-19:00	1.3	4.8	S	0.9	3.2	WNW
19:00-20:00	1.3	4.8	S	0.4	1.6	WNW
20:00-21:00	0.9	3.2	SW	0.4	1.6	NW
21:00-22:00	0.4	1.6	WNW	1.3	4.8	NW
22:00-23:00	0.4	1.6	WNW	1.3	4.8	NW
23:00-00:00	0.4	1.6	WNW	1.3	4.8	NW
00:00-01:00	0.4	1.6	WNW	0.9	3.2	NW
01:00-02:00	0.9	3.2	NW	1.3	4.8	NW
02:00-03:00	0.9	3.2	NW	1.8	6.4	NW
03:00-04:00	0.9	3.2	NW	1.3	4.8	NW
04:00-05:00	1.3	4.8	NW	0.9	3.2	WNW
05:00-06:00	1.8	6.4	NW	0.9	3.2	WNW
06:00-07:00	0.9	3.2	NW	0.9	3.2	NW
07:00-08:00	1.3	4.8	NW	0.4	1.6	NW
08:00-09:00	0.9	3.2	NNW	0.4	1.6	NW
09:00-10:00	0.9	3.2	NNW	0.4	1.6	NW
Temperature Average (°C)	29.3			28.8		
Barometric Pressure Average (mmHg)	756.95			756.45		
Sky Condition	Fair			Cloudy and Rainy		

Reported results refer to measurement time only.

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Technical Supervisor

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RY145/09/66

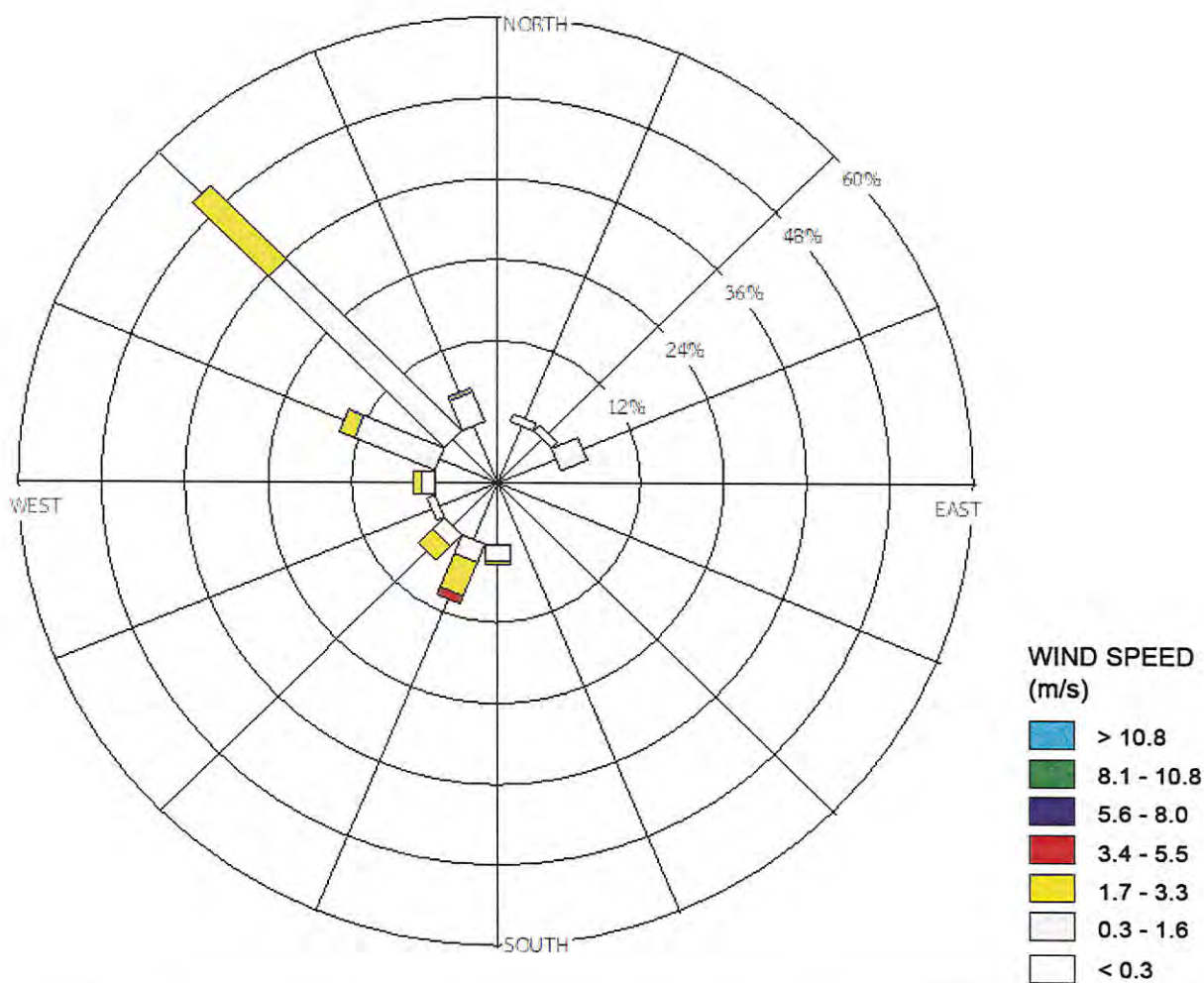
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Wind Speed and Wind Direction Measurement Report

Project : Ultra Clean Flue (UCF) Diesel Euro V Sampling Date : 25 September - 2 October 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 6 October 2023
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Wastewater Treatment Plant 4 Area

September - October 2023



Reported results refer to measurement time only.

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(Signature/Stamp)

Technical Supervisor

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RY264/11/66

R-Pro-1091-2/2021

Wind Speed and Wind Direction Measurement Report

Project : HMU-2 Sampling Date : 21-28 November 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 December 2023
Mueang, Rayong 21000
Client Name/Address : Wison Engineering Ltd.
Sampling By : S.P.S. Consulting Service Co., Ltd.

Wind Speed Wind Direction	Project Area				
	Percent of Wind Speed (%)				
	Light Air	Light Breeze	Gentle Breeze	Moderate Breeze	Fresh Breeze
	0.3-1.6 m/s (1-5 km/hr)	1.7-3.3 m/s (6-11 km/hr)	3.4-5.5 m/s (12-19 km/hr)	5.6-8.0 m/s (20-28 km/hr)	8.1-10.8 m/s (29-38 km/hr)
N (349°-11°)	-	-	-	-	-
NNE (11°-34°)	4.762	-	-	-	-
NE (34°-56°)	11.310	1.786	-	-	-
ENE (56°-79°)	33.929	7.738	-	-	-
E (79°-102°)	0.595	-	-	-	-
ESE (102°-124°)	-	-	-	-	-
SE (124°-146°)	-	-	-	-	-
SSE (146°-169°)	-	-	-	-	-
S (169°-191°)	2.975	-	-	-	-
SSW (191°-214°)	3.571	-	-	-	-
SW (214°-236°)	1.786	-	-	-	-
WSW (236°-259°)	0.595	-	-	-	-
W (259°-281°)	6.548	-	-	-	-
WNW (281°-304°)	23.810	-	-	-	-
NW (304°-326°)	0.595	-	-	-	-
NNW (326°-349°)	-	-	-	-	-
Total	90.476	9.524	0.000	0.000	0.000
Calm <0.3 m/s (<1 km/hr)	0.000				

Reported results refer to measurement time only.

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Technical Supervisor

04 / 12 / 23



RY264/11/66

R-Pro-1091-2/2021

Wind Speed and Wind Direction Measurement Report

Project : HMU-2 Sampling Date : 21-28 November 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000 Date Reported : 4 December 2023
Client Name/Address : Wison Engineering Ltd.
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Project Area														
	November 2023														
	21-22			22-23			23-24			24-25			25-26		
	WS		WD	WS		WD	WS		WD	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr		m/s	km/hr	
10:30-11:30	0.9	3.2	W	0.4	1.6	WSW	1.3	4.8	ENE	1.3	4.8	NE	1.3	4.8	ENE
11:30-12:30	0.9	3.2	W	0.9	3.2	SSW	0.9	3.2	NE	0.9	3.2	NE	1.3	4.8	ENE
12:30-13:30	1.3	4.8	W	0.9	3.2	SSW	0.9	3.2	ENE	0.9	3.2	ENE	1.8	6.4	NE
13:30-14:30	0.4	1.6	S	0.4	1.6	SW	0.9	3.2	ENE	0.4	1.6	NNE	0.9	3.2	ENE
14:30-15:30	0.4	1.6	SSW	0.9	3.2	SSW	0.4	1.6	NNE	0.4	1.6	NNE	1.3	4.8	ENE
15:30-16:30	0.4	1.6	S	0.4	1.6	S	0.4	1.6	SW	0.4	1.6	NNE	1.3	4.8	ENE
16:30-17:30	0.4	1.6	S	0.4	1.6	SSW	0.4	1.6	W	0.4	1.6	ENE	0.4	1.6	ENE
17:30-18:30	0.9	3.2	S	1.3	4.8	NNE	1.3	4.8	ENE	0.4	1.6	ENE	0.9	3.2	ENE
18:30-19:30	1.3	4.8	NNE	0.9	3.2	NNE	0.9	3.2	ENE	0.4	1.6	ENE	0.4	1.6	ENE
19:30-20:30	0.4	1.6	NE	0.4	1.6	NNE	0.4	1.6	ENE	0.4	1.6	ENE	0.4	1.6	ENE
20:30-21:30	0.9	3.2	E	0.4	1.6	NE	0.4	1.6	ENE	0.9	3.2	ENE	0.4	1.6	WNW
21:30-22:30	1.3	4.8	WNW	0.4	1.6	NE	0.4	1.6	NE	1.3	4.8	W	0.4	1.6	WNW
22:30-23:30	0.9	3.2	WNW	0.9	3.2	NE	1.3	4.8	NW	0.4	1.6	WNW	0.4	1.6	WNW
23:30-00:30	0.4	1.6	WNW	0.4	1.6	NE	0.9	3.2	WNW	0.9	3.2	ENE	0.9	3.2	WNW
00:30-01:30	0.4	1.6	WNW	1.3	4.8	WNW	0.4	1.6	WNW	0.4	1.6	ENE	0.4	1.6	WNW
01:30-02:30	0.4	1.6	W	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	ENE	0.4	1.6	WNW
02:30-03:30	0.4	1.6	WNW	0.4	1.6	WNW	0.9	3.2	WNW	0.4	1.6	ENE	0.4	1.6	WNW
03:30-04:30	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	ENE	0.4	1.6	WNW
04:30-05:30	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	ENE	0.9	3.2	WNW
05:30-06:30	0.4	1.6	WNW	0.4	1.6	WNW	0.4	1.6	WNW	0.9	3.2	WNW	0.4	1.6	WNW
06:30-07:30	0.9	3.2	WNW	0.4	1.6	WNW	0.4	1.6	ENE	0.9	3.2	WNW	0.9	3.2	ENE
07:30-08:30	0.9	3.2	W	0.4	1.6	ENE	0.9	3.2	ENE	1.3	4.8	W	1.3	4.8	ENE
08:30-09:30	0.9	3.2	W	1.3	4.8	ENE	1.8	6.4	ENE	1.3	4.8	ENE	2.2	8.0	ENE
09:30-10:30	0.9	3.2	W	1.8	6.4	ENE	1.8	6.4	NE	1.8	6.4	ENE	1.8	6.4	ENE
Temperature Average (°C)	28.4			28.4			28.9			29.4			29.4		
Barometric Pressure Average (mmHg)	756.24			755.71			755.79			756.37			756.96		
Sky Codition	Fair			Fair			Fair			Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

04 / 12 / 23



RY264/11/66

R-Pro-1091-2/2021

Wind Speed and Wind Direction Measurement Report

Project : HMU-2 Sampling Date : 21-28 November 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000 Date Reported : 4 December 2023
Client Name/Address: Wison Engineering Ltd.
Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Project Area					
	November 2023					
	26-27			27-28		
	WS		WD	WS		WD
	m/s	km/hr		m/s	km/hr	
10:30-11:30	1.3	4.8	ENE	1.8	6.4	ENE
11:30-12:30	1.3	4.8	ENE	1.3	4.8	ENE
12:30-13:30	1.3	4.8	NE	1.8	6.4	ENE
13:30-14:30	1.3	4.8	NE	1.8	6.4	ENE
14:30-15:30	0.9	3.2	NE	2.2	8.0	ENE
15:30-16:30	0.9	3.2	NE	1.8	6.4	ENE
16:30-17:30	0.4	1.6	NE	1.3	4.8	NE
17:30-18:30	0.4	1.6	ENE	1.8	6.4	NE
18:30-19:30	0.4	1.6	ENE	0.9	3.2	ENE
19:30-20:30	0.9	3.2	NE	0.4	1.6	ENE
20:30-21:30	0.4	1.6	NE	1.3	4.8	WNW
21:30-22:30	0.4	1.6	ENE	0.4	1.6	WNW
22:30-23:30	0.4	1.6	ENE	0.9	3.2	WNW
23:30-00:30	0.9	3.2	ENE	0.4	1.6	ENE
00:30-01:30	0.4	1.6	ENE	0.9	3.2	ENE
01:30-02:30	0.4	1.6	ENE	0.4	1.6	ENE
02:30-03:30	0.4	1.6	ENE	1.3	4.8	SW
03:30-04:30	0.4	1.6	ENE	0.4	1.6	SSW
04:30-05:30	1.3	4.8	NE	0.9	3.2	W
05:30-06:30	1.3	4.8	NE	0.9	3.2	WNW
06:30-07:30	0.9	3.2	ENE	0.4	1.6	ENE
07:30-08:30	1.8	6.4	ENE	0.9	3.2	ENE
08:30-09:30	1.8	6.4	ENE	1.3	4.8	ENE
09:30-10:30	1.8	6.4	ENE	1.3	4.8	ENE
Temperature Average (°C)	29.8			28.9		
Barometric Pressure Average (mmHg)	756.87			756.68		
Sky Codition	Fair			Fair		

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor
04 / 12 / 23

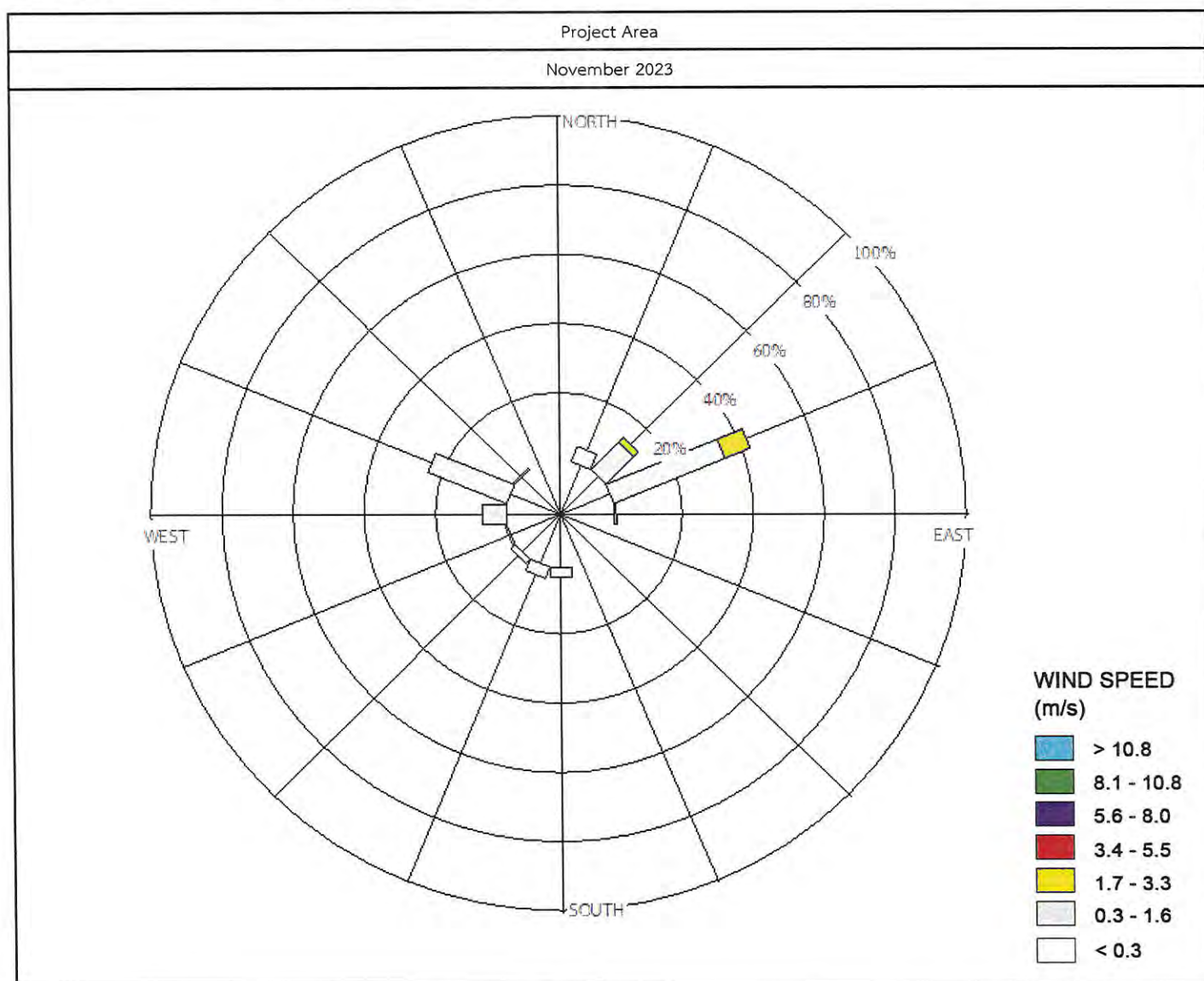


RY264/11/66

R-Pro-1091-2/2021

Wind Speed and Wind Direction Measurement Report

Project : HMU-2 Sampling Date : 21-28 November 2023
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000 Date Reported : 4 December 2023
Client Name/Address : Wison Engineering Ltd.
Sampling By : S.P.S. Consulting Service Co., Ltd.



Reported results refer to measurement time only.

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Technical Supervisor

04 / 12 / 23

ลำดับที่ 3

ระดับเสียงในบรรยากาศ

Central Control Room (CCR) Building





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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	22-23		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	73.9	73.4	91.3
10:30-11:30	73.1		
11:30-12:30	72.4		
12:30-13:30	72.4		
13:30-14:30	73.4		
14:30-15:30	74.6		
15:30-16:30	73.8		
16:30-17:30	72.9		
17:30-18:30	72.1	71.3	86.1
18:30-19:30	71.2		
19:30-20:30	71.1		
20:30-21:30	71.5		
21:30-22:30	71.3		
22:30-23:30	71.1		
23:30-00:30	71.1		
00:30-01:30	71.1	71.1	85.7
01:30-02:30	71.0		
02:30-03:30	70.9		
03:30-04:30	70.9		
04:30-05:30	70.9		
05:30-06:30	71.1		
06:30-07:30	70.9		
07:30-08:30	71.2		
08:30-09:30	71.6		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization, Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

Reported results refer to measurement time only.
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Technical Supervisor

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	23-24		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	72.3	71.4	97.6
10:30-11:30	71.2		
11:30-12:30	70.6		
12:30-13:30	70.6		
13:30-14:30	71.7		
14:30-15:30	71.7		
15:30-16:30	71.7		
16:30-17:30	71.2		
17:30-18:30	70.6	70.5	86.3
18:30-19:30	70.8		
19:30-20:30	70.4		
20:30-21:30	70.4		
21:30-22:30	70.5		
22:30-23:30	70.4		
23:30-00:30	70.4		
00:30-01:30	70.4		
01:30-02:30	70.2	70.6	91.2
02:30-03:30	70.2		
03:30-04:30	70.4		
04:30-05:30	70.5		
05:30-06:30	70.5		
06:30-07:30	70.5		
07:30-08:30	70.6		
08:30-09:30	71.6		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	25-26		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	73.2	72.7	88.3
10:30-11:30	72.9		
11:30-12:30	71.9		
12:30-13:30	71.8		
13:30-14:30	72.5		
14:30-15:30	73.5		
15:30-16:30	72.6		
16:30-17:30	72.9		
17:30-18:30	72.0	72.1	82.4
18:30-19:30	72.1		
19:30-20:30	72.0		
20:30-21:30	72.0		
21:30-22:30	72.1		
22:30-23:30	72.2		
23:30-00:30	72.3		
00:30-01:30	72.3		
01:30-02:30	72.3	72.5	98.3
02:30-03:30	72.4		
03:30-04:30	72.5		
04:30-05:30	72.4		
05:30-06:30	72.3		
06:30-07:30	72.3		
07:30-08:30	72.6		
08:30-09:30	73.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment.
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	26-27		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	73.4	72.8	95.4
10:30-11:30	72.3		
11:30-12:30	72.0		
12:30-13:30	72.1		
13:30-14:30	74.3		
14:30-15:30	72.8		
15:30-16:30	72.3		
16:30-17:30	72.4		
17:30-18:30	72.3	72.2	87.1
18:30-19:30	72.4		
19:30-20:30	72.3		
20:30-21:30	72.3		
21:30-22:30	72.2		
22:30-23:30	72.2		
23:30-00:30	72.1		
00:30-01:30	72.2	72.3	86.9
01:30-02:30	72.3		
02:30-03:30	72.4		
03:30-04:30	72.4		
04:30-05:30	72.6		
05:30-06:30	72.4		
06:30-07:30	72.4		
07:30-08:30	72.3		
08:30-09:30	72.0		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	27-28		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	74.7	72.3	97.4
10:30-11:30	72.0		
11:30-12:30	71.8		
12:30-13:30	71.9		
13:30-14:30	72.8		
14:30-15:30	72.0		
15:30-16:30	71.4		
16:30-17:30	70.3		
17:30-18:30	70.4	70.5	75.5
18:30-19:30	70.7		
19:30-20:30	70.5		
20:30-21:30	70.5		
21:30-22:30	70.3		
22:30-23:30	70.5		
23:30-00:30	70.4		
00:30-01:30	70.4		
01:30-02:30	70.3	70.5	85.7
02:30-03:30	70.2		
03:30-04:30	70.5		
04:30-05:30	70.6		
05:30-06:30	70.6		
06:30-07:30	70.3		
07:30-08:30	70.6		
08:30-09:30	71.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations,

Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (East Area)		
	August 2023		
	28-29		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	71.1	71.3	97.2
10:30-11:30	71.1		
11:30-12:30	70.2		
12:30-13:30	70.0		
13:30-14:30	73.8		
14:30-15:30	71.4		
15:30-16:30	70.7		
16:30-17:30	70.7		
17:30-18:30	70.3	70.6	88.0
18:30-19:30	70.7		
19:30-20:30	70.1		
20:30-21:30	70.2		
21:30-22:30	70.1		
22:30-23:30	70.1		
23:30-00:30	71.1		
00:30-01:30	71.6	72.1	108.0
01:30-02:30	71.7		
02:30-03:30	71.7		
03:30-04:30	71.8		
04:30-05:30	71.8		
05:30-06:30	71.8		
06:30-07:30	71.9		
07:30-08:30	73.2		
08:30-09:30	72.3		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R31	ACO	6236	00192043
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (South Area)		
	August 2023		
	22-23		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	72.8	72.3	103.1
10:30-11:30	70.9		
11:30-12:30	68.0		
12:30-13:30	66.0		
13:30-14:30	71.0		
14:30-15:30	75.1		
15:30-16:30	75.9		
16:30-17:30	70.5		
17:30-18:30	68.9	66.3	90.6
18:30-19:30	66.7		
19:30-20:30	65.8		
20:30-21:30	65.8		
21:30-22:30	65.6		
22:30-23:30	65.4		
23:30-00:30	65.2		
00:30-01:30	65.3		
01:30-02:30	65.3	68.4	103.3
02:30-03:30	65.2		
03:30-04:30	65.1		
04:30-05:30	65.3		
05:30-06:30	65.5		
06:30-07:30	65.7		
07:30-08:30	70.6		
08:30-09:30	73.7		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R48	ACO	6236	00192060
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (South Area)		
	August 2023		
	23-24		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	73.8	70.2	100.8
10:30-11:30	68.4		
11:30-12:30	65.8		
12:30-13:30	64.9		
13:30-14:30	71.1		
14:30-15:30	69.8		
15:30-16:30	72.0		
16:30-17:30	68.6		
17:30-18:30	67.5	65.6	90.7
18:30-19:30	66.0		
19:30-20:30	65.5		
20:30-21:30	65.0		
21:30-22:30	64.9		
22:30-23:30	64.8		
23:30-00:30	65.0		
00:30-01:30	65.0	66.5	89.5
01:30-02:30	65.0		
02:30-03:30	64.9		
03:30-04:30	65.0		
04:30-05:30	65.0		
05:30-06:30	65.3		
06:30-07:30	65.8		
07:30-08:30	68.7		
08:30-09:30	69.2		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R48	ACO	6236	00192060
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (South Area)		
	August 2023		
	25-26		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	70.2	69.0	100.1
10:30-11:30	69.5		
11:30-12:30	66.4		
12:30-13:30	65.6		
13:30-14:30	70.0		
14:30-15:30	67.8		
15:30-16:30	68.0		
16:30-17:30	71.4		
17:30-18:30	68.4	66.7	92.8
18:30-19:30	67.7		
19:30-20:30	67.6		
20:30-21:30	65.5		
21:30-22:30	65.6		
22:30-23:30	65.8		
23:30-00:30	65.8		
00:30-01:30	65.9		
01:30-02:30	65.8	67.7	92.9
02:30-03:30	65.8		
03:30-04:30	65.9		
04:30-05:30	65.9		
05:30-06:30	66.0		
06:30-07:30	66.3		
07:30-08:30	70.6		
08:30-09:30	71.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R48	ACO	6236	00192060
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (South Area)		
	August 2023		
	26-27		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:30-10:30	68.5	69.3	105.3
10:30-11:30	67.4		
11:30-12:30	66.5		
12:30-13:30	66.2		
13:30-14:30	71.1		
14:30-15:30	72.1		
15:30-16:30	71.1		
16:30-17:30	67.5		
17:30-18:30	66.6	65.9	94.6
18:30-19:30	66.7		
19:30-20:30	65.9		
20:30-21:30	65.8		
21:30-22:30	65.7		
22:30-23:30	65.5		
23:30-00:30	65.4		
00:30-01:30	65.4		
01:30-02:30	65.7	67.5	96.0
02:30-03:30	65.9		
03:30-04:30	66.0		
04:30-05:30	66.1		
05:30-06:30	66.2		
06:30-07:30	66.7		
07:30-08:30	70.6		
08:30-09:30	69.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R48	ACO	6236	00192060
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Address : Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (South Area)		
	August 2023		
	28-29		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:30-10:30	71.1	69.0	96.5
10:30-11:30	70.1		
11:30-12:30	66.2		
12:30-13:30	65.3		
13:30-14:30	69.1		
14:30-15:30	67.9		
15:30-16:30	70.6		
16:30-17:30	68.6		
17:30-18:30	68.1	66.0	93.2
18:30-19:30	66.6		
19:30-20:30	65.5		
20:30-21:30	65.9		
21:30-22:30	65.1		
22:30-23:30	65.1		
23:30-00:30	65.2		
00:30-01:30	65.3		
01:30-02:30	65.3	67.0	96.4
02:30-03:30	65.4		
03:30-04:30	65.5		
04:30-05:30	65.6		
05:30-06:30	65.8		
06:30-07:30	66.1		
07:30-08:30	69.0		
08:30-09:30	70.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R48	ACO	6236	00192060
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	22-23		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:10-10:10	72.6	69.7	96.0
10:10-11:10	71.7		
11:10-12:10	67.5		
12:10-13:10	63.7		
13:10-14:10	68.6		
14:10-15:10	71.0		
15:10-16:10	69.3		
16:10-17:10	67.1		
17:10-18:10	68.8	65.3	91.6
18:10-19:10	64.6		
19:10-20:10	65.3		
20:10-21:10	64.0		
21:10-22:10	64.6		
22:10-23:10	65.2		
23:10-00:10	64.0		
00:10-01:10	63.3	65.8	104.4
01:10-02:10	63.2		
02:10-03:10	63.1		
03:10-04:10	63.1		
04:10-05:10	63.7		
05:10-06:10	64.2		
06:10-07:10	65.4		
07:10-08:10	67.6		
08:10-09:10	70.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023

Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	23-24		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:10-10:10	66.4	67.1	97.1
10:10-11:10	66.1		
11:10-12:10	65.0		
12:10-13:10	63.3		
13:10-14:10	67.5		
14:10-15:10	66.9		
15:10-16:10	70.5		
16:10-17:10	67.7		
17:10-18:10	68.1	64.9	97.0
18:10-19:10	66.1		
19:10-20:10	64.9		
20:10-21:10	63.1		
21:10-22:10	63.1		
22:10-23:10	64.5		
23:10-00:10	63.4		
00:10-01:10	62.6	65.6	103.1
01:10-02:10	62.8		
02:10-03:10	62.7		
03:10-04:10	62.7		
04:10-05:10	63.0		
05:10-06:10	63.6		
06:10-07:10	64.9		
07:10-08:10	68.2		
08:10-09:10	69.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
 7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	24-25		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:10-10:10	74.6	74.6	99.1
10:10-11:10	74.8		
11:10-12:10	71.0		
12:10-13:10	66.6		
13:10-14:10	72.3		
14:10-15:10	77.8		
15:10-16:10	77.5		
16:10-17:10	73.3		
17:10-18:10	66.8	64.5	91.2
18:10-19:10	65.5		
19:10-20:10	64.4		
20:10-21:10	62.8		
21:10-22:10	62.8		
22:10-23:10	64.6		
23:10-00:10	64.3		
00:10-01:10	63.5	66.2	101.1
01:10-02:10	63.2		
02:10-03:10	63.4		
03:10-04:10	63.2		
04:10-05:10	63.7		
05:10-06:10	63.3		
06:10-07:10	64.9		
07:10-08:10	67.7		
08:10-09:10	71.2		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

Reported results refer to measurement time only.

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Technical Supervisor

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	25-26		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:10-10:10	79.9	75.9	106.5
10:10-11:10	77.8		
11:10-12:10	65.4		
12:10-13:10	62.8		
13:10-14:10	67.9		
14:10-15:10	76.0		
15:10-16:10	78.4		
16:10-17:10	74.9		
17:10-18:10	70.2	66.1	95.0
18:10-19:10	67.4		
19:10-20:10	64.6		
20:10-21:10	63.1		
21:10-22:10	63.3		
22:10-23:10	64.9		
23:10-00:10	63.6		
00:10-01:10	65.9		
01:10-02:10	62.7	65.5	98.3
02:10-03:10	62.8		
03:10-04:10	63.2		
04:10-05:10	63.4		
05:10-06:10	63.6		
06:10-07:10	64.9		
07:10-08:10	68.6		
08:10-09:10	68.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	26-27		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:10-10:10	68.6	70.0	102.0
10:10-11:10	70.4		
11:10-12:10	66.4		
12:10-13:10	63.5		
13:10-14:10	68.9		
14:10-15:10	70.3		
15:10-16:10	71.3		
16:10-17:10	73.4		
17:10-18:10	69.5	65.9	92.9
18:10-19:10	67.9		
19:10-20:10	66.7		
20:10-21:10	63.4		
21:10-22:10	63.2		
22:10-23:10	63.3		
23:10-00:10	64.5		
00:10-01:10	62.8		
01:10-02:10	63.0	65.1	91.8
02:10-03:10	63.2		
03:10-04:10	63.3		
04:10-05:10	64.0		
05:10-06:10	64.3		
06:10-07:10	64.9		
07:10-08:10	65.9		
08:10-09:10	68.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	27-28		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:10-10:10	74.8	70.2	96.0
10:10-11:10	74.7		
11:10-12:10	65.5		
12:10-13:10	63.8		
13:10-14:10	65.0		
14:10-15:10	69.0		
15:10-16:10	66.0		
16:10-17:10	63.7		
17:10-18:10	63.6	63.5	84.2
18:10-19:10	63.3		
19:10-20:10	63.9		
20:10-21:10	63.7		
21:10-22:10	63.1		
22:10-23:10	63.1		
23:10-00:10	64.1		
00:10-01:10	62.7	69.3	93.2
01:10-02:10	62.7		
02:10-03:10	62.6		
03:10-04:10	62.7		
04:10-05:10	63.2		
05:10-06:10	63.6		
06:10-07:10	64.9		
07:10-08:10	68.4		
08:10-09:10	76.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Addr: Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 22-29 August 2023
Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (West Area)		
	August 2023		
	28-29		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:10-10:10	77.6	72.4	102.2
10:10-11:10	71.3		
11:10-12:10	66.1		
12:10-13:10	64.0		
13:10-14:10	68.6		
14:10-15:10	71.2		
15:10-16:10	73.0		
16:10-17:10	73.6		
17:10-18:10	73.3	67.1	90.6
18:10-19:10	67.2		
19:10-20:10	65.8		
20:10-21:10	63.6		
21:10-22:10	63.5		
22:10-23:10	63.5		
23:10-00:10	63.5		
00:10-01:10	63.0		
01:10-02:10	62.8	64.8	93.0
02:10-03:10	62.7		
03:10-04:10	62.8		
04:10-05:10	63.2		
05:10-06:10	63.2		
06:10-07:10	64.6		
07:10-08:10	67.1		
08:10-09:10	68.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R46	ACO	6236	00192058
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 22-29 August 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 4 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	22-23		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:15-10:15	70.9	70.9	91.3
10:15-11:15	70.6		
11:15-12:15	70.8		
12:15-13:15	69.8		
13:15-14:15	70.8		
14:15-15:15	71.1		
15:15-16:15	71.2		
16:15-17:15	71.3		
17:15-18:15	70.3	70.2	83.4
18:15-19:15	69.9		
19:15-20:15	70.1		
20:15-21:15	70.5		
21:15-22:15	70.7		
22:15-23:15	70.2		
23:15-00:15	69.9		
00:15-01:15	69.7	70.3	90.8
01:15-02:15	69.8		
02:15-03:15	69.7		
03:15-04:15	69.4		
04:15-05:15	70.1		
05:15-06:15	69.9		
06:15-07:15	69.7		
07:15-08:15	69.8		
08:15-09:15	72.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	23-24		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:15-10:15	74.0	73.3	98.4
10:15-11:15	74.0		
11:15-12:15	70.3		
12:15-13:15	69.0		
13:15-14:15	73.6		
14:15-15:15	74.8		
15:15-16:15	74.2		
16:15-17:15	73.3		
17:15-18:15	70.4	69.4	83.3
18:15-19:15	70.1		
19:15-20:15	69.7		
20:15-21:15	69.0		
21:15-22:15	69.0		
22:15-23:15	69.1		
23:15-00:15	68.9		
00:15-01:15	68.9		
01:15-02:15	68.8	69.4	93.7
02:15-03:15	68.8		
03:15-04:15	68.9		
04:15-05:15	69.1		
05:15-06:15	69.1		
06:15-07:15	69.1		
07:15-08:15	69.9		
08:15-09:15	71.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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RY136/08/66

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Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	24-25		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:15-10:15	73.9	72.0	94.0
10:15-11:15	71.6		
11:15-12:15	70.2		
12:15-13:15	68.9		
13:15-14:15	72.7		
14:15-15:15	73.0		
15:15-16:15	72.6		
16:15-17:15	71.1	69.7	82.6
17:15-18:15	70.7		
18:15-19:15	70.5		
19:15-20:15	69.6		
20:15-21:15	69.0		
21:15-22:15	69.2		
22:15-23:15	69.4		
23:15-00:15	69.4	69.7	84.7
00:15-01:15	69.5		
01:15-02:15	69.3		
02:15-03:15	69.3		
03:15-04:15	69.3		
04:15-05:15	69.7		
05:15-06:15	69.2		
06:15-07:15	69.3	71.9	
07:15-08:15	69.3		
08:15-09:15	71.9		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations,

Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.

Technical Supervisor

04 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	25-26		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:15-10:15	71.4	70.7	99.7
10:15-11:15	71.1		
11:15-12:15	69.5		
12:15-13:15	68.6		
13:15-14:15	70.0		
14:15-15:15	71.2		
15:15-16:15	71.9		
16:15-17:15	70.7		
17:15-18:15	69.6	69.2	81.9
18:15-19:15	68.9		
19:15-20:15	68.7		
20:15-21:15	68.5		
21:15-22:15	68.7		
22:15-23:15	69.0		
23:15-00:15	68.8		
00:15-01:15	70.7	69.5	81.2
01:15-02:15	68.8		
02:15-03:15	69.1		
03:15-04:15	69.7		
04:15-05:15	69.8		
05:15-06:15	69.5		
06:15-07:15	69.6		
07:15-08:15	69.8		
08:15-09:15	69.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	26-27		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:15-10:15	69.0	70.6	87.2
10:15-11:15	70.9		
11:15-12:15	69.8		
12:15-13:15	69.5		
13:15-14:15	71.5		
14:15-15:15	71.2		
15:15-16:15	71.3		
16:15-17:15	71.3	69.9	87.6
17:15-18:15	71.0		
18:15-19:15	70.7		
19:15-20:15	69.8		
20:15-21:15	69.4		
21:15-22:15	69.5		
22:15-23:15	69.4		
23:15-00:15	69.7		
00:15-01:15	69.4	69.7	87.9
01:15-02:15	69.6		
02:15-03:15	69.7		
03:15-04:15	69.6		
04:15-05:15	69.9		
05:15-06:15	69.9		
06:15-07:15	69.7		
07:15-08:15	69.5		
08:15-09:15	69.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
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Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

04 / 09 / 23



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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 22-29 August 2023
 Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	27-28		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
09:15-10:15	69.7	69.3	80.7
10:15-11:15	69.4		
11:15-12:15	69.1		
12:15-13:15	69.3		
13:15-14:15	69.2		
14:15-15:15	69.1		
15:15-16:15	69.2		
16:15-17:15	69.2		
17:15-18:15	69.2	69.3	82.7
18:15-19:15	69.3		
19:15-20:15	69.8		
20:15-21:15	69.3		
21:15-22:15	69.2		
22:15-23:15	69.3		
23:15-00:15	69.3		
00:15-01:15	69.3	69.7	83.8
01:15-02:15	69.2		
02:15-03:15	69.3		
03:15-04:15	69.3		
04:15-05:15	69.4		
05:15-06:15	69.5		
06:15-07:15	69.5		
07:15-08:15	69.6		
08:15-09:15	71.3		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor

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RY136/08/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000
Client Name/Addr: Hyundai Engineering Company
Sampling By : S.P.S. Consulting Service Co., Ltd.
Sampling Date : 22-29 August 2023
Date Reported : 4 September 2023

Time	Construction of Production Control Building Area (North Area)		
	August 2023		
	28-29		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
09:15-10:15	71.2	70.6	86.8
10:15-11:15	70.9		
11:15-12:15	69.6		
12:15-13:15	69.1		
13:15-14:15	70.5		
14:15-15:15	70.7		
15:15-16:15	71.3		
16:15-17:15	70.9		
17:15-18:15	70.5	69.5	87.8
18:15-19:15	70.2		
19:15-20:15	69.7		
20:15-21:15	69.0		
21:15-22:15	68.9		
22:15-23:15	69.0		
23:15-00:15	69.3		
00:15-01:15	69.1		
01:15-02:15	69.0	69.3	89.1
02:15-03:15	68.8		
03:15-04:15	68.7		
04:15-05:15	68.8		
05:15-06:15	68.6		
06:15-07:15	68.7		
07:15-08:15	68.9		
08:15-09:15	71.7		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 439/23		21 August 2023	
SLM No.	Brand	Model	Serial No.
ACO-R09	ACO	6236	00172035
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, ACO, Model 2127, S/N. 130006, IEC 60942

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Technical Supervisor
04 / 09 / 23

New Cooling Tower



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (East Area)		
	September 2023		
	11-12		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	71.4	72.5	96.7
12:40-13:40	70.9		
13:40-14:40	73.0		
14:40-15:40	72.8		
15:40-16:40	74.4		
16:40-17:40	72.6		
17:40-18:40	72.0		
18:40-19:40	71.6		
19:40-20:40	71.4	71.2	95.6
20:40-21:40	71.3		
21:40-22:40	71.3		
22:40-23:40	71.3		
23:40-00:40	71.1		
00:40-01:40	70.9		
01:40-02:40	71.1		
02:40-03:40	70.9		
03:40-04:40	70.9	72.0	93.9
04:40-05:40	70.9		
05:40-06:40	71.1		
06:40-07:40	71.6		
07:40-08:40	71.6		
08:40-09:40	71.5		
09:40-10:40	72.4		
10:40-11:40	74.7		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
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Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

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(Benjaporn Homkarn)

Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

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Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (East Area)		
	September 2023		
	12-13		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	74.3	74.5	110.2
12:40-13:40	74.9		
13:40-14:40	78.0		
14:40-15:40	75.4		
15:40-16:40	73.3		
16:40-17:40	73.2		
17:40-18:40	72.5		
18:40-19:40	71.3		
19:40-20:40	70.2	70.3	83.5
20:40-21:40	70.3		
21:40-22:40	70.4		
22:40-23:40	70.7		
23:40-00:40	70.5		
00:40-01:40	70.1		
01:40-02:40	70.1		
02:40-03:40	70.1		
03:40-04:40	70.1	72.4	100.0
04:40-05:40	70.1		
05:40-06:40	70.2		
06:40-07:40	69.2		
07:40-08:40	72.9		
08:40-09:40	74.1		
09:40-10:40	74.6		
10:40-11:40	74.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (East Area)		
	September 2023		
	13-14		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
11:40-12:40	70.2	73.1	98.4
12:40-13:40	70.5		
13:40-14:40	71.7		
14:40-15:40	74.4		
15:40-16:40	76.2		
16:40-17:40	75.3		
17:40-18:40	71.3		
18:40-19:40	70.2		
19:40-20:40	69.9	69.8	84.8
20:40-21:40	69.6		
21:40-22:40	69.5		
22:40-23:40	69.7		
23:40-00:40	69.7		
00:40-01:40	69.8		
01:40-02:40	69.8		
02:40-03:40	70.4	78.7	100.9
03:40-04:40	69.9		
04:40-05:40	70.0		
05:40-06:40	70.2		
06:40-07:40	70.7		
07:40-08:40	74.1		
08:40-09:40	84.1		
09:40-10:40	83.8		
10:40-11:40	74.9		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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22 / 09 / 23



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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (East Area)		
	September 2023		
	14-15		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	71.7	74.8	98.2
12:40-13:40	74.3		
13:40-14:40	75.8		
14:40-15:40	76.6		
15:40-16:40	78.2		
16:40-17:40	74.5		
17:40-18:40	70.8		
18:40-19:40	70.3		
19:40-20:40	70.1	69.9	91.1
20:40-21:40	70.0		
21:40-22:40	70.3		
22:40-23:40	69.7		
23:40-00:40	69.7		
00:40-01:40	69.8		
01:40-02:40	69.8		
02:40-03:40	70.1		
03:40-04:40	70.8	74.5	101.9
04:40-05:40	71.7		
05:40-06:40	71.5		
06:40-07:40	71.8		
07:40-08:40	72.7		
08:40-09:40	77.1		
09:40-10:40	78.9		
10:40-11:40	73.5		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
 Do not copy partial of this measurement report without official approval.

Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (East Area)		
	September 2023		
	15-16		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	71.3	74.0	102.3
12:40-13:40	74.0		
13:40-14:40	74.1		
14:40-15:40	75.2		
15:40-16:40	76.6		
16:40-17:40	74.6		
17:40-18:40	71.5		
18:40-19:40	71.3		
19:40-20:40	71.1	70.9	86.2
20:40-21:40	70.9		
21:40-22:40	71.2		
22:40-23:40	71.2		
23:40-00:40	70.7		
00:40-01:40	70.9		
01:40-02:40	70.6		
02:40-03:40	70.6		
03:40-04:40	70.6	72.7	110.3
04:40-05:40	70.5		
05:40-06:40	70.6		
06:40-07:40	72.6		
07:40-08:40	75.2		
08:40-09:40	74.0		
09:40-10:40	73.2		
10:40-11:40	72.6		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (East Area)		
	September 2023		
	17-18		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	68.5	68.8	91.3
12:40-13:40	68.9		
13:40-14:40	69.4		
14:40-15:40	69.0		
15:40-16:40	68.9		
16:40-17:40	68.6		
17:40-18:40	68.6		
18:40-19:40	68.1		
19:40-20:40	67.7	69.6	82.5
20:40-21:40	67.9		
21:40-22:40	68.0		
22:40-23:40	71.2		
23:40-00:40	71.3		
00:40-01:40	69.8		
01:40-02:40	69.4		
02:40-03:40	69.9		
03:40-04:40	69.2	72.6	104.9
04:40-05:40	68.5		
05:40-06:40	69.8		
06:40-07:40	70.5		
07:40-08:40	73.7		
08:40-09:40	75.7		
09:40-10:40	75.1		
10:40-11:40	71.7		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B06	CIRRUS	CR161B	G301151
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
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(Benjaporn Homkum)

Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (South Area)		
	September 2023		
	11-12		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	75.4	76.0	104.6
13:00-14:00	75.2		
14:00-15:00	76.1		
15:00-16:00	77.8		
16:00-17:00	76.5		
17:00-18:00	75.6		
18:00-19:00	75.5		
19:00-20:00	75.7		
20:00-21:00	75.4	75.0	92.7
21:00-22:00	74.8		
22:00-23:00	74.9		
23:00-00:00	75.0		
00:00-01:00	75.1		
01:00-02:00	75.1		
02:00-03:00	75.0		
03:00-04:00	75.1		
04:00-05:00	75.0	76.1	104.6
05:00-06:00	75.2		
06:00-07:00	75.4		
07:00-08:00	75.4		
08:00-09:00	75.8		
09:00-10:00	76.6		
10:00-11:00	77.8		
11:00-12:00	76.6		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (South Area)		
	September 2023		
	12-13		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	75.0	76.1	100.6
13:00-14:00	75.5		
14:00-15:00	76.2		
15:00-16:00	77.6		
16:00-17:00	76.4		
17:00-18:00	76.6		
18:00-19:00	76.0		
19:00-20:00	75.4		
20:00-21:00	74.7	75.0	94.1
21:00-22:00	74.4		
22:00-23:00	74.8		
23:00-00:00	75.4		
00:00-01:00	75.8		
01:00-02:00	75.1		
02:00-03:00	74.8		
03:00-04:00	74.8		
04:00-05:00	74.8	75.7	102.8
05:00-06:00	74.8		
06:00-07:00	75.0		
07:00-08:00	74.8		
08:00-09:00	75.0		
09:00-10:00	77.1		
10:00-11:00	77.4		
11:00-12:00	75.4		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (South Area)		
	September 2023		
	13-14		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	75.0	74.8	101.7
13:00-14:00	75.0		
14:00-15:00	74.4		
15:00-16:00	76.0		
16:00-17:00	74.7		
17:00-18:00	74.4		
18:00-19:00	74.3		
19:00-20:00	74.2		
20:00-21:00	73.8	74.0	105.7
21:00-22:00	73.5		
22:00-23:00	73.6		
23:00-00:00	73.4		
00:00-01:00	74.2		
01:00-02:00	74.4		
02:00-03:00	74.4		
03:00-04:00	74.5		
04:00-05:00	74.4	75.9	103.3
05:00-06:00	74.5		
06:00-07:00	74.7		
07:00-08:00	74.8		
08:00-09:00	76.4		
09:00-10:00	76.1		
10:00-11:00	77.4		
11:00-12:00	77.8		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUSS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization, Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUSS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (South Area)		
	September 2023		
	14-15		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	76.3	75.8	98.2
13:00-14:00	74.9		
14:00-15:00	76.0		
15:00-16:00	76.5		
16:00-17:00	76.4		
17:00-18:00	75.8		
18:00-19:00	75.2		
19:00-20:00	74.7		
20:00-21:00	74.0	74.3	97.8
21:00-22:00	73.5		
22:00-23:00	74.0		
23:00-00:00	74.4		
00:00-01:00	74.6		
01:00-02:00	74.7		
02:00-03:00	74.7		
03:00-04:00	74.7		
04:00-05:00	74.5	76.0	101.1
05:00-06:00	76.1		
06:00-07:00	75.8		
07:00-08:00	75.8		
08:00-09:00	75.5		
09:00-10:00	76.7		
10:00-11:00	76.8		
11:00-12:00	76.5		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

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 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (South Area)		
	September 2023		
	15-16		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	75.6	76.6	100.7
13:00-14:00	75.8		
14:00-15:00	76.6		
15:00-16:00	76.4		
16:00-17:00	77.5		
17:00-18:00	77.7		
18:00-19:00	76.4		
19:00-20:00	76.3		
20:00-21:00	75.5	75.6	95.6
21:00-22:00	75.4		
22:00-23:00	75.6		
23:00-00:00	75.9		
00:00-01:00	75.8		
01:00-02:00	75.7		
02:00-03:00	75.6		
03:00-04:00	75.6		
04:00-05:00	75.8	76.3	95.3
05:00-06:00	75.6		
06:00-07:00	75.7		
07:00-08:00	75.8		
08:00-09:00	75.8		
09:00-10:00	77.4		
10:00-11:00	76.9		
11:00-12:00	76.7		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.

Do not copy partial of this measurement report without official approval.



Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด

S.P.S. CONSULTING SERVICE CO., LTD.

7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900

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Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V

Sampling Date : 11-18 September 2023

Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000

Date Reported : 22 September 2023

Client Name/Address: Hyundai Engineering Company

Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (South Area)		
	September 2023		
	16-17		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	75.9	76.2	102.9
13:00-14:00	75.8		
14:00-15:00	76.3		
15:00-16:00	76.7		
16:00-17:00	76.0		
17:00-18:00	77.4		
18:00-19:00	75.8		
19:00-20:00	75.5		
20:00-21:00	75.5	74.7	98.9
21:00-22:00	75.3		
22:00-23:00	75.4		
23:00-00:00	75.4		
00:00-01:00	74.9		
01:00-02:00	73.8		
02:00-03:00	73.7		
03:00-04:00	73.1		
04:00-05:00	72.6	73.0	94.7
05:00-06:00	72.6		
06:00-07:00	73.3		
07:00-08:00	72.8		
08:00-09:00	72.8		
09:00-10:00	73.5		
10:00-11:00	73.4		
11:00-12:00	73.0		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUS	CRI61B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization, Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.

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Technical Supervisor

22 / 09 / 23



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (South Area)		
	September 2023		
	17-18		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	73.4	73.5	97.5
13:00-14:00	72.9		
14:00-15:00	73.7		
15:00-16:00	74.1		
16:00-17:00	74.0		
17:00-18:00	73.1		
18:00-19:00	73.4		
19:00-20:00	73.3		
20:00-21:00	73.6	74.5	89.2
21:00-22:00	73.2		
22:00-23:00	73.0		
23:00-00:00	73.1		
00:00-01:00	77.3		
01:00-02:00	74.4		
02:00-03:00	75.1		
03:00-04:00	74.5		
04:00-05:00	75.0	75.4	95.8
05:00-06:00	74.6		
06:00-07:00	73.2		
07:00-08:00	76.6		
08:00-09:00	76.7		
09:00-10:00	76.6		
10:00-11:00	74.7		
11:00-12:00	73.9		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B03	CIRRUUS	CR161B	G301155
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations.

Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.

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Technical Supervisor

22 / 09 / 23



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (West Area)		
	September 2023		
	11-12		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	67.2	70.3	95.1
13:00-14:00	67.4		
14:00-15:00	70.3		
15:00-16:00	70.9		
16:00-17:00	72.5		
17:00-18:00	71.6		
18:00-19:00	70.0		
19:00-20:00	69.5		
20:00-21:00	68.4	67.7	83.0
21:00-22:00	67.8		
22:00-23:00	67.9		
23:00-00:00	68.2		
00:00-01:00	67.6		
01:00-02:00	67.2		
02:00-03:00	67.3		
03:00-04:00	67.3		
04:00-05:00	67.3	70.4	102.2
05:00-06:00	67.4		
06:00-07:00	67.6		
07:00-08:00	68.4		
08:00-09:00	69.3		
09:00-10:00	71.6		
10:00-11:00	72.5		
11:00-12:00	73.7		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (West Area)		
	September 2023		
	12-13		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	67.4	71.2	95.9
13:00-14:00	68.7		
14:00-15:00	72.6		
15:00-16:00	75.0		
16:00-17:00	71.5		
17:00-18:00	69.5		
18:00-19:00	71.5		
19:00-20:00	67.9		
20:00-21:00	67.5	67.0	85.2
21:00-22:00	67.1		
22:00-23:00	66.9		
23:00-00:00	67.3		
00:00-01:00	67.2		
01:00-02:00	66.6		
02:00-03:00	66.5		
03:00-04:00	66.7		
04:00-05:00	66.7	70.6	96.0
05:00-06:00	66.6		
06:00-07:00	67.0		
07:00-08:00	67.9		
08:00-09:00	69.4		
09:00-10:00	72.4		
10:00-11:00	71.3		
11:00-12:00	74.9		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard⁽¹⁾ = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard⁽²⁾ = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
 Do not copy partial of this measurement report without official approval.

(Signature/Name)

Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Mueang, Rayong 21000 Date Reported : 22 September 2023
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (West Area)		
	September 2023		
	13-14		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
12:00-13:00	72.0	74.4	99.4
13:00-14:00	72.0		
14:00-15:00	76.1		
15:00-16:00	74.0		
16:00-17:00	78.8		
17:00-18:00	74.3		
18:00-19:00	70.7		
19:00-20:00	70.0		
20:00-21:00	69.8	69.6	92.6
21:00-22:00	69.6		
22:00-23:00	70.0		
23:00-00:00	69.3		
00:00-01:00	69.2		
01:00-02:00	69.4		
02:00-03:00	69.6		
03:00-04:00	69.8		
04:00-05:00	69.9	71.7	98.8
05:00-06:00	71.3		
06:00-07:00	70.9		
07:00-08:00	71.1		
08:00-09:00	71.5		
09:00-10:00	75.1		
10:00-11:00	71.6		
11:00-12:00	69.3		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment, Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (West Area)		
	September 2023		
	14-15		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	67.0	72.9	105.2
13:00-14:00	67.9		
14:00-15:00	73.4		
15:00-16:00	73.6		
16:00-17:00	77.2		
17:00-18:00	71.9		
18:00-19:00	74.5		
19:00-20:00	67.1		
20:00-21:00	66.6	66.1	89.8
21:00-22:00	65.9		
22:00-23:00	66.3		
23:00-00:00	66.0		
00:00-01:00	65.9		
01:00-02:00	66.0		
02:00-03:00	65.8		
03:00-04:00	66.3		
04:00-05:00	66.5	70.7	100.2
05:00-06:00	67.6		
06:00-07:00	67.4		
07:00-08:00	68.1		
08:00-09:00	68.0		
09:00-10:00	73.4		
10:00-11:00	75.5		
11:00-12:00	69.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations.

Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

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บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (West Area)		
	September 2023		
	15-16		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	67.2	72.0	103.8
13:00-14:00	68.5		
14:00-15:00	76.8		
15:00-16:00	73.0		
16:00-17:00	73.5		
17:00-18:00	70.5		
18:00-19:00	68.3		
19:00-20:00	67.8		
20:00-21:00	67.5	67.4	91.1
21:00-22:00	67.8		
22:00-23:00	67.9		
23:00-00:00	67.8		
00:00-01:00	67.2		
01:00-02:00	66.8		
02:00-03:00	66.6		
03:00-04:00	67.0		
04:00-05:00	67.2	73.7	109.3
05:00-06:00	67.0		
06:00-07:00	67.3		
07:00-08:00	67.9		
08:00-09:00	79.5		
09:00-10:00	76.6		
10:00-11:00	73.8		
11:00-12:00	69.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment, Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (West Area)		
	September 2023		
	16-17		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	67.8	70.4	92.3
13:00-14:00	68.3		
14:00-15:00	75.2		
15:00-16:00	69.2		
16:00-17:00	69.9		
17:00-18:00	69.7		
18:00-19:00	68.5		
19:00-20:00	67.9		
20:00-21:00	68.1	67.1	75.9
21:00-22:00	67.9		
22:00-23:00	67.7		
23:00-00:00	68.0		
00:00-01:00	66.9		
01:00-02:00	65.8		
02:00-03:00	66.2		
03:00-04:00	65.7		
04:00-05:00	65.0	65.9	99.4
05:00-06:00	65.2		
06:00-07:00	66.1		
07:00-08:00	65.3		
08:00-09:00	65.8		
09:00-10:00	65.5		
10:00-11:00	67.6		
11:00-12:00	66.5		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUS	CR161B	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (West Area)		
	September 2023		
	17-18		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
12:00-13:00	65.5	65.9	84.3
13:00-14:00	65.3		
14:00-15:00	66.2		
15:00-16:00	66.5		
16:00-17:00	66.6		
17:00-18:00	65.7		
18:00-19:00	65.9		
19:00-20:00	65.2		
20:00-21:00	65.1	66.9	80.3
21:00-22:00	65.3		
22:00-23:00	65.2		
23:00-00:00	67.2		
00:00-01:00	70.1		
01:00-02:00	66.7		
02:00-03:00	67.0		
03:00-04:00	66.2		
04:00-05:00	66.3	69.2	103.5
05:00-06:00	65.2		
06:00-07:00	65.3		
07:00-08:00	68.5		
08:00-09:00	68.1		
09:00-10:00	68.9		
10:00-11:00	74.0		
11:00-12:00	69.4		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B09	CIRRUSS	CR1618	G301401
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.0		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization, Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUSS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (North Area)		
	September 2023		
	11-12		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
11:40-12:40	63.0	71.2	103.2
12:40-13:40	65.4		
13:40-14:40	71.7		
14:40-15:40	72.8		
15:40-16:40	74.2		
16:40-17:40	73.3		
17:40-18:40	71.1		
18:40-19:40	67.5	64.2	89.2
19:40-20:40	66.5		
20:40-21:40	65.9		
21:40-22:40	66.4		
22:40-23:40	63.8		
23:40-00:40	61.9		
00:40-01:40	61.8		
01:40-02:40	61.6	68.8	94.1
02:40-03:40	61.1		
03:40-04:40	61.3		
04:40-05:40	61.3		
05:40-06:40	62.7		
06:40-07:40	64.9		
07:40-08:40	69.5		
08:40-09:40	72.5		
09:40-10:40	72.7		
10:40-11:40	69.1		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No. CR-B05	Brand CIRRUSS	Model CR161B	Serial No. G301134
Actual Reading [dB]			
Before Adjustment 94.1		After Adjustment 94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations.

Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUSS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V Sampling Date : 11-18 September 2023
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen, Date Reported : 22 September 2023
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (North Area)		
	September 2023		
	12-13		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	64.9	73.0	96.6
12:40-13:40	72.6		
13:40-14:40	74.9		
14:40-15:40	75.8		
15:40-16:40	72.8		
16:40-17:40	73.0		
17:40-18:40	72.9		
18:40-19:40	69.7		
19:40-20:40	66.8	63.3	87.7
20:40-21:40	65.9		
21:40-22:40	63.5		
22:40-23:40	61.8		
23:40-00:40	61.2		
00:40-01:40	60.5		
01:40-02:40	60.4		
02:40-03:40	60.7		
03:40-04:40	60.3	72.8	99.7
04:40-05:40	60.6		
05:40-06:40	61.4		
06:40-07:40	63.2		
07:40-08:40	75.3		
08:40-09:40	77.5		
09:40-10:40	76.8		
10:40-11:40	70.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B05	CIRRUUS	CR161B	G301134
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด

S.P.S. CONSULTING SERVICE CO., LTD.

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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (North Area)		
	September 2023		
	13-14		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	64.1	73.6	99.0
12:40-13:40	72.1		
13:40-14:40	76.1		
14:40-15:40	77.3		
15:40-16:40	76.0		
16:40-17:40	71.6		
17:40-18:40	71.0		
18:40-19:40	66.1		
19:40-20:40	67.2	63.7	86.9
20:40-21:40	65.4		
21:40-22:40	62.6		
22:40-23:40	61.2		
23:40-00:40	61.5		
00:40-01:40	60.9		
01:40-02:40	63.9		
02:40-03:40	62.3		
03:40-04:40	60.4	72.6	95.7
04:40-05:40	61.0		
05:40-06:40	61.7		
06:40-07:40	64.9		
07:40-08:40	71.1		
08:40-09:40	78.1		
09:40-10:40	77.0		
10:40-11:40	71.0		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B05	CIRRUS	CR161B	G301134
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization, Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด

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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Address : Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.
 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (North Area)		
	September 2023		
	14-15		
	L _{eq} 1 hr [dB(A)]	L _{eq} 8 hr [dB(A)]	L _{max} [dB(A)]
11:40-12:40	64.3	70.6	97.0
12:40-13:40	70.3		
13:40-14:40	75.0		
14:40-15:40	72.2		
15:40-16:40	71.6		
16:40-17:40	67.6		
17:40-18:40	68.2		
18:40-19:40	66.6		
19:40-20:40	65.7	63.4	90.6
20:40-21:40	67.2		
21:40-22:40	64.6		
22:40-23:40	61.1		
23:40-00:40	60.3		
00:40-01:40	61.0		
01:40-02:40	60.4		
02:40-03:40	60.2		
03:40-04:40	61.2	70.4	98.6
04:40-05:40	61.6		
05:40-06:40	62.3		
06:40-07:40	63.7		
07:40-08:40	70.1		
08:40-09:40	74.5		
09:40-10:40	75.0		
10:40-11:40	70.3		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B05	CIRRUS	CR161B	G301134
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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Technical Supervisor

22 / 09 / 23



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S.P.S. CONSULTING SERVICE CO., LTD.

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RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V

Sampling Date : 11-18 September 2023

Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
Mueang, Rayong 21000

Date Reported : 22 September 2023

Client Name/Addr: Hyundai Engineering Company

Sampling By : S.P.S. Consulting Service Co., Ltd.

Time	New Cooling Tower Area (North Area)		
	September 2023		
	15-16		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	63.3	72.6	100.3
12:40-13:40	70.2		
13:40-14:40	75.3		
14:40-15:40	76.0		
15:40-16:40	75.5		
16:40-17:40	68.7		
17:40-18:40	70.2		
18:40-19:40	67.2		
19:40-20:40	66.2	63.2	87.4
20:40-21:40	64.7		
21:40-22:40	64.9		
22:40-23:40	62.0		
23:40-00:40	61.0		
00:40-01:40	61.1		
01:40-02:40	60.5		
02:40-03:40	60.5		
03:40-04:40	60.4	69.1	95.0
04:40-05:40	60.5		
05:40-06:40	61.0		
06:40-07:40	62.6		
07:40-08:40	70.4		
08:40-09:40	74.2		
09:40-10:40	71.8		
10:40-11:40	68.7		
Standard		Less Than 90.0 ⁽¹⁾	Less Than 140.0 ⁽¹⁾ , 115.0 ⁽²⁾
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B05	CIRRUS	CR161B	G301134
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

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Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

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 Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

RY071/09/66

193/1/66

Noise Level Report

Project : Ultra Clean Fule (UCF) Diesel Euro V
 Project Location : 299 Moo 5, Sukhumvit Road, Choeng Noen,
 Mueang, Rayong 21000
 Client Name/Addr: Hyundai Engineering Company
 Sampling By : S.P.S. Consulting Service Co., Ltd.

Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (North Area)		
	September 2023		
	16-17		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	61.8	68.2	96.5
12:40-13:40	68.1		
13:40-14:40	71.4		
14:40-15:40	70.3		
15:40-16:40	71.5		
16:40-17:40	66.2		
17:40-18:40	61.3		
18:40-19:40	60.9		
19:40-20:40	60.7	59.7	73.7
20:40-21:40	60.6		
21:40-22:40	60.7		
22:40-23:40	60.4		
23:40-00:40	59.1		
00:40-01:40	59.0		
01:40-02:40	58.4		
02:40-03:40	58.0		
03:40-04:40	57.9	65.0	90.6
04:40-05:40	59.2		
05:40-06:40	60.6		
06:40-07:40	61.2		
07:40-08:40	64.1		
08:40-09:40	65.9		
09:40-10:40	67.9		
10:40-11:40	69.4		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
Calibrate Sheet No.: Noise R 473/23		10 September 2023	
SLM No.	Brand	Model	Serial No.
CR-B05	CIRRUS	CR161B	G301134
Actual Reading [dB]			
Before Adjustment		After Adjustment	
94.1		94.0	

Remark:

This Report is not Included in the Results of Measurement and Analysis Certified in Accordance with the Ministerial Regulations, Registration and Service Authorization. Occupational Health and Work Environment, B.E. 2564 (2021)

Standard^[1] = Safety Protection Measures in Industrial Plant Operation Concerning Working Environment,
 Notification of the Ministry of Industry, B.E. 2546 (2003)

Standard^[2] = Standard for Administration, Management and Implementation of Safety, Occupational Health and Working Environment
 in Relation to Heat, Light and Noise, Regulation of the Ministry of Labour, B.E. 2559 (2016)

Sampling Method = Sound Level Meter

Acoustic Calibrator, CIRRUS, Model CR515, S/N. 92002, IEC 60942

Reported results refer to measurement time only.
 Do not copy partial of this measurement report without official approval.



Technical Supervisor

22 / 09 / 23



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
 7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
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 Sampling Date : 11-18 September 2023
 Date Reported : 22 September 2023

Time	New Cooling Tower Area (North Area)		
	September 2023		
	17-18		
	L_{eq} 1 hr [dB(A)]	L_{eq} 8 hr [dB(A)]	L_{max} [dB(A)]
11:40-12:40	63.1	64.3	89.0
12:40-13:40	65.6		
13:40-14:40	66.1		
14:40-15:40	66.5		
15:40-16:40	64.9		
16:40-17:40	64.1		
17:40-18:40	60.4		
18:40-19:40	58.7	60.0	74.3
19:40-20:40	58.1		
20:40-21:40	58.2		
21:40-22:40	58.4		
22:40-23:40	62.5		
23:40-00:40	61.1		
00:40-01:40	60.3		
01:40-02:40	59.5	69.5	95.3
02:40-03:40	59.9		
03:40-04:40	59.3		
04:40-05:40	58.8		
05:40-06:40	61.8		
06:40-07:40	64.6		
07:40-08:40	70.4		
08:40-09:40	73.2	74.0	95.3
09:40-10:40	74.0		
10:40-11:40	69.4		
Standard		Less Than 90.0 ^[1]	Less Than 140.0 ^[1] , 115.0 ^[2]
Sound Level Meter Data			
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